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Empirical Analysis of the Effect of Female Directors' Characteristics on Earnings Quality

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Abstract: *This study examined effect of female directors' characteristics on earnings quality of listed consumer goods companies in Nigeria from 2010 to 2024. The research design adopted for this study was ex-post facto; secondary data were used, the population of the study comprised 20 listed consumer goods firms in Nigeria and the sample size of 16 was purposively selected. The technique of data analysis employed was hierarchical regression analysis, and the statistical package employed was STATA 17. The findings of the study revealed that female directors' academic qualification (coeff. = -1.822 [0.035]) has significant but negative effect; female directors' financial expertise (coeff. = 1.658 [0.000]) has a highly significant and positive effect; and female directors' experience (FDEX) (coeff. = 0.018 [0.969]) has nonsignificant effect on earnings persistence of listed consumer goods firms in Nigeria. It was thus concluded that while female board participation is important, the specific attributes and competencies of female directors are critical determinants of their effectiveness in influencing earnings quality. Based on the findings and conclusion of this study, it was therefore* *recommended, among others, that the management of listed consumer goods firms should ensure that financially literate female directors balance rigorous oversight with long-term reporting stability and avoid excessive short-term adjustments that may distort earnings consistency.*

Keywords: Female directors' characteristics, earnings quality**,** academic qualification, financial expertise, directors’ experience earnings persistence.

INTRODUCTION

The quality of financial reporting remains fundamental to the efficient functioning of capital markets because it provides stakeholders with credible information for evaluating corporate performance and making economic decisions. Investors, creditors, regulators, and other users of financial statements rely on reported earnings to assess firms' profitability, predict future performance, estimate firm value, and allocate scarce resources efficiently. Consequently, financial statements that faithfully represent a firm's underlying economic reality enhance market confidence, reduce information asymmetry, and improve investment decisions (Hany et al., 2022). Conversely, poor-quality earnings arising from earnings manipulation or aggressive accounting practices distort financial information, increase agency conflicts, and weaken stakeholders' confidence in corporate reporting (Amedu et al. 2025). Corporate governance has emerged as one of the most effective mechanisms for enhancing earnings quality by strengthening board oversight and limiting managerial opportunism.Earnings quality, refers to the extent to which reported earnings accurately reflect a firm's true economic performance and are useful in predicting future earnings and cash flows. It encompasses characteristics such as reliability, relevance, persistence, predictability, and freedom from managerial manipulation. Among the various proxies of earnings quality, earnings persistence is regarded as one of the most informative because it measures the sustainability and recurrence of current earnings over time. Persistent earnings indicate that reported profits are generated from normal business operations and are therefore more likely to continue in future periods, making them more valuable to investors and other stakeholders.

As noted by Abata et al. (2025), the board of directors is responsible for monitoring management, safeguarding shareholders' interests, and ensuring the integrity of financial reporting. Within the corporate governance literature, increasing attention has been devoted to understanding the contribution of women to board effectiveness. While early studies focused primarily on the numerical representation of women on corporate boards, contemporary research increasingly argues that the effectiveness of female directors depends largely on the competencies, knowledge, and experience they contribute to board deliberations rather than their mere presence (Al-Absy, 2023; Hany et al., 2022). Female directors’ characteristics and board representation refer to the demographic, educational, professional, and governance-related features of women serving on corporate boards, as well as the extent of their participation and representation in key board structures and oversight functions. It encompasses academic qualification, financial expertise, experience, nationality, age and many others. Female directors academic qualification refers to the educational qualification of female directors especially advanced degrees such as MBA, MSc, PhD and professional qualifications.

According to Salami et al. (2023), firms with academically qualified female directors are often perceived as more credible and committed to professional governance, which can improve investors’ confidence and the firm’s reputation. Audit committee female membership, entails inclusion of women among the directors serving on the audit committee, a subcommittee of the board responsible for oversight of financial reporting, internal controls, and audit processes. Also, independent female directors are female members of the board who have no material or pecuniary relationship with the company, its management, or its related parties, other than her directorship fee (Zalata & Abdelfattah, 2025). Their independence is a critical governance attribute, as they are expected to bring unbiased judgment, rigor, and objectivity to board deliberations, particularly in the oversight of financial reporting and the prevention of earnings manipulation. As noted by subhani et al. (2025), female directors' financial expertise is an important board attribute that reflects a director's knowledge and experience in accounting, finance, auditing, or related professional fields. This attribute is particularly relevant in strengthening board monitoring functions and improving the quality of financial reporting (yami et al., 2025). Similarly, female directors' experience refers to the accumulated professional, managerial, executive, industry, or board service acquired by women serving on a company's board of directors over time. It reflects the breadth and depth of knowledge, skills, and practical expertise gained through previous age, leadership positions, board appointments, and involvement in corporate decision-making (Omojola, (2024). Female directors with extensive experience are generally better equipped to understand complex business operations, evaluate strategic alternatives, monitor management effectively, identify financial reporting risks, and contribute to sound corporate governance. Female directors' nationality reflects the presence of foreign or non-domestic women on corporate boards and represents an important dimension of board diversity.

The relationship between female directors' characteristics and earnings quality is explained by agency theory and resource dependence theory. Agency theory argues that boards exist to minimise conflicts of interest between managers and shareholders through effective monitoring of managerial actions (Jensen & Meckling, 1976). Female directors possessing strong educational backgrounds, financial expertise, and extensive professional experience are expected to perform this monitoring role more effectively by discouraging opportunistic financial reporting and reducing information asymmetry. Similarly, resource dependence Theory posits that directors contribute valuable human capital, knowledge, expertise, and external networks that improve organisational performance and governance quality (Pfeffer & Salancik, 1978). Female directors with relevant competencies therefore represent strategic organisational resources capable of strengthening financial reporting quality.

Globally, corporate governance reforms have increasingly encouraged greater female participation on corporate boards in recognition of the economic and governance benefits associated with board diversity. Regulatory agencies, institutional investors, and international organisations advocate greater female involvement in corporate leadership because women often contribute diverse perspectives, stronger ethical orientation, enhanced diligence, and improved monitoring behaviour (Akpanowo & Akpan, 2024;Yami et al., 2025; Bello et al., 2024). Nevertheless, recent governance debates suggest that meaningful improvements in financial reporting are more likely to arise from appointing competent female directors with appropriate qualifications and expertise than from achieving numerical gender diversity alone.

Despite continuous improvements in corporate governance regulations in Nigeria, concerns regarding the quality and sustainability of corporate earnings remain prevalent. Instances of earnings manipulation, income smoothing, aggressive accounting practices, and declining investor confidence continue to raise questions regarding the effectiveness of board oversight in ensuring credible financial reporting (Amedu et al., 2025; Al-Absy, 2023; Efenyumi & Okoye, 2023). According to Akpanowo and Akpan (2024), although corporate governance reforms have increased female participation on corporate boards, merely appointing women to board positions may not automatically improve earnings quality unless those directors possess the educational background, financial competence, and professional experience required to perform effective monitoring functions. Directors lacking these competencies may be unable to challenge complex accounting decisions, evaluate financial reporting risks, or detect earnings manipulation effectively. Consequently, board oversight may remain weak despite improvements in gender diversity, thereby limiting the reliability and persistence of reported earnings. It is against this background that this study examined the effect of female directors' academic qualifications, financial expertise, and professional experience on the earnings persistence of listed consumer goods companies in Nigeria.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Female directors’ academic qualification and earnings persistence

Female directors with higher academic qualifications, especially in fields like accounting, finance, or law, possess superior cognitive resources and expertise. When female directors have this expertise, their monitoring of financial reporting becomes more effective. Women are better equipped to challenge aggressive accounting policies, scrutinize complex financial estimates, and detect earnings manipulation attempts (which reduce persistence). This enhanced capability leads to more conservative and reliable financial reporting, which in turn contributes to higher earnings persistence. Subhani et al. (2025) found that female academic qualification is positively associated with financial reporting quality. Yami et al. (2025) found that high quality boards decrease the incidence of earnings management. Darmayanti (2023) study revealed that independence, educational background and foreign citizenship of female directors affect earnings quality. Hussaini et al. (2024) discovered that the presence of educationally advanced female directors and the presence of women in audit committee will likely discourage creative accounting practices in listed Nigerian companies. Issa et al. (2024) established a positive association between the presence of female directors with advanced educational backgrounds on bank boards and bank efficiency and stability. Akpanowo and Akpan (2024) examined the effect of female board membership attributes on market value drawing samples from listed consumer goods companies in Nigeria from 2013 to 2022. The outcome of the data analyses revealed that female board composition, and female director academic qualification have significant positive effect on earnings yield of consumer goods companies in Nigeria. Alharbi et al. (2022) had a compelling evidence that the presence of women directors on the board is positively associated with bank earnings quality. El-feky (2023) documented evidence that increasing numbers of female directors particularly highly educated female board. On the contrary, Xu (2022) revealed that the immediate impact of the female directors’ educational background on company performance is not significant. Sofian et al. (2022) found that female directors’ academic qualification, independent female directors, and females in the audit committee do not affect earnings management. Based on these notes, this study hypothesized that;

Ho_1: Female director’s academic qualification has no significant effect on earnings persistence of listed consumer goods companies in Nigeria.

Female directors’ financial expertise and earnings persistence

Female directors’ financial expertise is an important board attribute that reflects a director’s knowledge and experience in accounting, finance, auditing, or related professional fields. This attribute is particularly relevant in strengthening board monitoring functions and improving the quality of financial reporting. Yami et al. (2025) noted that female directors with financial expertise enhance the board's monitoring effectiveness by reducing information asymmetry between management and shareholders. Their technical competence enables them to critically evaluate accounting estimates, accruals, and financial disclosures, thereby constraining managerial opportunism. As a result, firms with financially knowledgeable female directors are less likely to engage in aggressive earnings management, leading to more persistent and reliable earnings. Tamunotonye and Zukbee (2023) are of the opinion that financially expert female directors contribute specialized knowledge and analytical skills that improve oversight of the financial reporting process. Their expertise allows them to identify irregularities in financial statements, question complex accounting treatments, and ensure compliance with accounting standards. This strengthens internal control systems and promotes consistent earnings performance over time, thereby enhancing earnings persistence.

Empirical studies consistently show that the presence of financially expert directors on is associated with lower earnings manipulation and higher earnings quality. When such expertise is possessed by female directors, the effect may be amplified due to their heightened diligence, independence, and ethical sensitivity. This combination strengthens financial reporting credibility and improves earnings persistence, particularly in environments characterized by weak enforcement and high agency conflicts. For instance, Qaderi et al. (2024) found that female directors with financial expertise and those with higher education positively impact integrated reporting quality. Essien and Akpan (2024) found that board financial expertise has a significant negative effect on discretionary loan loss provisions, indicating improved earnings quality. Efenyumi and Okoye (2023) found that **f**emale directors financial expertise exert significant influence on earnings management. Salami et al. (2023) found that female chief financial officer (FCFO) is a better predictor of income smoothing. Alharbi et al. (2024) found that women with accounting and finance qualification positively impacted bank market value. However, Theno et al. (2024) found that female directors financial expertise has no significant effect on earnings management. Sari et al. (2023) found that the presence of female directors who are financial experts female is not related to profit management. As a moderator, Darmayanti et al. (2022) found that financial expertise of female directors weakened the relationship between diversity and earnings quality. Against this backdrop, this study hypothesized that;

Ho_5: Female directors' financial expertise has no significant effect on earnings persistence of listed consumer goods companies in Nigeria.

Female directors' experience and earnings persistence

The relationship between female directors' experience and earnings quality is grounded in the argument that experienced directors possess superior governance capabilities that enable them to strengthen board monitoring and reduce managerial opportunism (Abata et al., 2024). Earnings quality reflects the extent to which reported earnings faithfully represent a firm's underlying economic performance and provide reliable, relevant, and decision-useful information to stakeholders. High-quality earnings are characterized by persistence, predictability, timeliness, and freedom from earnings management. Since the board of directors is responsible for overseeing financial reporting, directors with substantial governance and managerial experience are expected to promote transparent accounting practices and discourage opportunistic financial reporting (Abata et al., 2024).

One of the principal mechanisms through which female directors' experience enhances earnings quality is by improving the board's monitoring effectiveness. According to Babayo and Shatima (2024), experienced female directors possess a deeper understanding of accounting standards, financial reporting regulations, internal control systems, and audit processes, enabling them to identify aggressive accounting practices and question management's accounting judgments. Their accumulated governance experience enhances their ability to detect irregularities in financial statements, evaluate complex accounting estimates, and ensure compliance with applicable financial reporting standards (Liu & Wu, 2023). This effective oversight reduces the likelihood of earnings manipulation and contributes to the production of credible and sustainable earnings.Furthermore, experienced female directors contribute significantly to strategic decision-making, which indirectly improves earnings quality. Age and years of executive and board experience expose directors to various business cycles, financial challenges, and governance issues, equipping them with the ability to evaluate investment decisions, assess organizational risks, and formulate long-term business strategies (Babayo & Shatima, 2024). Such strategic competence enables organizations to focus on sustainable value creation rather than short-term earnings management, thereby improving the persistence and reliability of reported earnings. As observed by Amara et al. (2025), young and experienced directors are also more capable of balancing the interests of shareholders and other stakeholders, reducing pressures on management to manipulate earnings to meet short-term performance targets.

Empirical evidence generally supports the positive relationship between directors' experience and financial reporting quality. For instance, El-feky (2023) reported that experienced board members significantly reduce earnings management through more effective corporate monitoring. Similarly, Abata et al. (2024) found that directors with greater governance experience enhance board effectiveness and improve the quality of financial reporting among Nigerian listed firms. Likewise, Babayo and Shatima (2024) observed that experienced directors strengthen board oversight, improve audit quality. Liu and Wu (2023) found that the presence of female directors significantly reduces various types of risk. However, empirical evidence regarding the influence of female directors' experience remains inconclusive. Abata et al. (2024) examined the impact of female board participation on earnings management among Nigerian manufacturing firms between 2014 and 2024 using a static panel regression model. The study reported that female directors' experience had a positive but only marginally significant effect on earnings management at the 10 percent level. While the finding suggests that experienced female directors influence financial reporting outcomes, it also indicates that their experience alone may not be sufficient to completely constrain earnings management, particularly in environments characterized by weak governance structures. Similarly, Debnath et al. (2022) investigated female directorship and real earnings management among firms listed on the Dhaka Stock Exchange and found that the presence of female directors was positively associated with real earnings management. On this note, this study hypothesized that;

Ho_6: Female directors' experience does not have any significant effect on earnings persistence of listed consumer goods companies in Nigeria.

Theoretical Framework

This study is supported by two major theories which are Upper Echelon theory and Critical Mass Theory as discussed below.

Upper Echelon Theory by Donald Hambrick and Phyllis Mason (1984)

Propounded by Hambrick and Mason (1984), the Upper Echelon theory holds the assumption that top management teams have substantial impact on firm's outcome through the decisions that they make which are uncertain and possess ambiguity. Individuals holds different vision, perception and interpretation to these uncertainties and therefore make different strategic choices. Although the theory of Upper Echelon was originally targeted for top management team (TMT), prior research has applied this theory to the board of directors, acknowledging that board of directors are a part of the “supra top management teams” (Hemdan & Khan, 2023). The Upper Echelon theory complements the corporate governance theories on board of directors by underlying demographic attributes of board members.

Hambrick and Mason (1984) built their theory on the premise of behavioral theory with their primary focus being on identifying managerial characteristics that can be used as variables to the cognitive base and values that upper echelons bring about that impact the company’s outcome – both strategy and effectiveness wise. These managerial characteristics are used to help understand how it is that board heterogeneity impacts firm outcome and earnings management. The theory recognizes that top management team (TMT) are affected by own cognitive base and values which influence their decisions on the strategy which ultimately influence firm outcome and stakeholder’s value maximization. (Ogaluzor & Chukwu, 2022). Thus, TMT works within the limitations that their own cognitive frame holds.

To assess the influence of top management on firm outcome and ultimately earnings quality, several upper echelon characters are suggested such as diversity in board characteristics (Hemdan & Khan, 2023). These include education, career experience, age, gender, nationality and race. Education, career experience, age, ethnicity, nationality and race can be used as advisory roles for companies given the unique perspectives that individuals are able to bring about due to varying characteristics. Gender diversity in terms of female presence, entails that female bring their own set of standards, morals and norms which are usually reserved, risk averse and ethical in nature (Gore et al., 2023)

This theory is relevant to this study in the sense that the board of directors in carrying out their advisory and monitory roles need to bring their managerial characteristics to bare. Also, the board of directors are a part of the top management teams that make strategic decisions and choices and so their demographic attributes have to apply in such strategic issues.

Critical mass theory by Rosabeth Moss Kanter (1977)

Critical mass theory as the anchor theory for female directors attributes and earnings quality. Critical mass theory provides a strong theoretical foundation for examining the relationship between board female representation and earnings quality of listed consumer goods companies in Nigeria. The theory, originally advanced by Rosabeth Moss Kanter (1977), posits that minority group members are unlikely to exert meaningful influence within a group until their representation reaches a “critical mass.” Below this threshold, they tend to be token members, while at or above the threshold, they are able to participate more actively, influence decisions, and shape outcomes (Kanter,1977). As noted by Muqorobin et al. (2024), critical mass theory suggests that the mere presence of one female director may be insufficient to affect board processes and outcomes such as financial reporting quality. When female directors are significantly underrepresented, they may face social isolation, stereotyping, or limited voice in board deliberations, which constrains their ability to influence sensitive decisions related to earnings management and financial reporting practices. As a result, earnings quality may remain largely unaffected when female representation is minimal.

However, once female representation reaches a critical mass often operationalized in empirical studies as at least two or three female directors, the dynamics within the board are expected to change (Hemdan

& Khan, 2023). At this level, female directors are more likely to participate fully in discussions, form alliances, and challenge managerial decisions. This collective presence enhances board independence and oversight, particularly in areas requiring judgment and ethical consideration, such as earnings reporting. Consequently, boards with a critical mass of female directors are better positioned to discourage opportunistic earnings management and promote higher earnings quality (Ullah et al., 2023).

In Nigeria, critical mass theory is particularly relevant due to the historically male-dominated nature of corporate boards and the institutional environment where monitoring mechanisms may be relatively weak. Achieving a critical mass of female directors can strengthen board vigilance by introducing diverse perspectives, ethical sensitivity, and risk aversion that are often associated with female leadership. These attributes can improve the scrutiny of accounting choices and financial reporting processes, thereby enhancing earnings quality (Kanter, 1977). Furthermore, critical mass theory aligns with agency theory by emphasizing the role of board composition in effective monitoring. Once female directors attain sufficient representation, their collective influence can reduce managerial opportunism, limit discretionary accruals, and improve the credibility of reported earnings. This makes the theory a suitable anchor for explaining how board female representation affects earnings quality beyond symbolic inclusion.

This theory is the anchor theory for this study as it explains that the impact of board female characteristics on earnings quality is not linear but contingent on achieving a threshold level of representation. The theory predicts that firms with a critical mass of female directors will exhibit higher earnings quality than those with minimal or token female representation.

METHODOLOGY

The research design that was adopted for this study was ex-post facto design. The design was suitable for this study because the data used were historical in nature. The population of this study consisted of twenty listed consumers goods firms out of which 16 were purposively selected as the sample size of this study. The data used in this study were secondary and were obtained from the published annual reports of the sampled consumer goods firms and Factbooks of the Nigerian Exchange Group during the period under study. The technique of data analysis employed in this study was Hierarchical regression analysis and the statistical package used was STATA 17.

Model specification

In line with the previous studies, the researcher adapted and modified the Model specified by Alharbi et al. (2022) as stated below;
Earnings quality = f (Female directors characteristics)
Earnings persistence = f (female directors' academic qualification, female directors' financial expertise and female directors' experience)

$$EPES_{it} = \beta_0 + \beta_1 FDAQ_{it} + \beta_2 FDFX_{it} + \beta_3 FDEX_{it} + \beta_7 + \beta_4 FIMZ_{it} + £_{it}$$

Where:

EPES	=	Earnings persistence
FDAQ	=	Female directors' academic qualification
FDFX	=	Female directors' financial expertise
FDEX	=	Female directors' experience
FMSZ	=	Firm size (control variable)
β_0	=	Model intercept
β_1-β_4	=	Coefficient to be estimated in the study
$_{it}$	=	Cross section of listed consumer goods firms with time variant
$£_{it}$	=	Stochastic error term

ANALYSIS AND DISCUSSION

Descriptive analyses

Table 4.1: Descriptive Statistics of the effect of board female characteristics on earnings quality of listed consumer goods companies in Nigeria.

Variable	Obs	Mean	Std. Dev.	Min	Max
epes	240	1241086.6	2264435.2	38337.399	15106664
fdaq	240	.114	.112	0	.571
fdfx	240	.073	.084	0	.364
fdex	240	.053	.075	0	.286
fimz	240	17.857	1.9	12.948	21.124

Source: Author's computation (2026)

From the table 4.1, earnings persistence (EPES) had an average value of ₦1,241,086.6, indicating that, on average, firms maintained a positive level of earnings persistence during the study period. The standard deviation of ₦2,264,435.2 reflects substantial variability in earnings persistence among the sampled firms. For the independent variable female directors' academic qualification (FDAQ), the mean value of 0.114 indicates that, on average, approximately 11.4% of board members across the sampled firms possess postgraduate qualifications. The standard deviation of 0.112 reflects moderate variability in academic qualifications, suggesting that while some firms have higher representation of academically qualified female directors, others have little or none. Female directors' experience (FDEX) shows a mean of 0.053, meaning that approximately 5.3% of board members are female directors above 45 years with 5 years working experience. Finally, the control variable firm size (FIMZ), measured as the natural logarithm of total assets, recorded a mean of 17.857, with a standard deviation of 1.9. This suggests moderate variation in firm size across the sector. The minimum value of 12.948 indicates the presence of relatively smaller firms, while the maximum value of 21.124 reflects considerably larger firms, highlighting the differences in operational scale and asset accumulation among the sampled companies.

Normality test

Table 4.3: Shapiroâ€“Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
epes	240	0.939	7.481	4.577	0.000
fdaq	240	0.812	23.096	7.142	0.000
fdfx	240	0.932	8.379	4.835	0.000
fdex	240	0.926	9.057	5.012	0.000
fimz	240	0.951	5.991	4.072	0.000

Source: Author's computation (2026)

From the output in table 4.3, it was observed that earnings persistence (epes, p value = 0.000) does not follow a normal distribution since the probability/significance level of the z-statistic as revealed by the Shapiro–Wilk test is statistically significant at the 5% level. The same can be said for the independent variables female directors' academic qualification (fdaq, p value = 0.000), female directors' financial expertise (fdfx, p value = 0.000), female directors' experience (fdex, p value = 0.000), female directors' nationality (fdna, p value = 0.000), and firm size (fimz, p value = 0.000), which all appear to follow a non-normal distribution since the probabilities of the z-statistics as revealed by the Shapiro-Wilk test are statistically significant at the 5% level. However, the violations of normality here are not considered serious for the regression analysis, as OLS estimates remain unbiased and valid even when variables are non-normal, especially with a reasonably large sample size (n = 240).

Correlations

Table 4.4: Spearman's rank correlation coefficients

Variable	EPES	FDAQ	FDFX	FDEX	FIMSZ
EPES	1				
FDAQ	0.4104 (0.0000)	1			
FDFX	0.3488 (0.0000)	0.6312 (0.0000)	1		
FDEX	-0.0377 (0.6357)	0.2365 (0.0026)	0.4073 (0.0000)	1	
FIMSZ	0.8212 (0.0000)	0.3742 (0.0000)	0.2272 (0.0039)	-0.1242 (0.1176)	1

Source: Author's computation (2026)

Table 4.4 presents the Spearman's rank correlation coefficients for the variables in the study. From the output, it was observed that female directors' academic qualification (fdaq) has a moderate positive correlation with earnings persistence (epes) of listed consumer goods firms in Nigeria, with a coefficient of 0.4104. This suggests that firms with a higher proportion of academically qualified female directors tend to exhibit greater earnings persistence. Female directors' financial expertise (fdfx) has a weak positive correlation with earnings persistence (0.3488), indicating that the presence of financially qualified female directors is somewhat linked to higher earnings persistence. Conversely, female directors' experience (fdex) exhibits a very weak negative correlation with earnings persistence

(-0.0377), showing that the proportion of experienced female directors has virtually no relationship with earnings persistence. Lastly, firm size (fimz) shows a strong positive correlation with earnings persistence (0.8212), highlighting that larger firms, in terms of total assets, tend to exhibit higher earnings persistence.

Table 4.5: Regression results

	(1) epes
fdaq	-1.822^{**}
	(0.035)
fdfx	1.658^{***}
	(0.000)
fdex	0.018
	(0.969)
fimz	0.207^{***}
	(0.000)
Constant	1.902^{***}
	(0.000)
r^2	0.630
N	240.000
F	32.143
Prob(F)	0.000
hettest	4.87(0.071)
vif	4.83

p-values in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Source: Author's computation (2026)

Homoscedasticity
The Breusch-Pagan test in Stata 17 was used to examine the homoscedasticity assumption of the OLS model. This assumption requires that the error terms have constant variance; otherwise, the reliability of the regression model's standard errors may be questioned. The results in Table 4.5 showed that this assumption was met, as indicated by the heteroscedasticity test outcome (Hettest = 4.87, p-value = 0.071 < 0.000). hence, there was no need for data transformation, the researcher proceeded with the hierarchical regression to test the study hypotheses.

Multicollinearity
The regression model assumes the inexistence of multicollinearity between the predictor variables. It is a situation where one or more independent variable can be expressed as a combination of other independent variables. This can be detected by observing the Variance Inflation Factor (VIF). The VIF should be lower than 10 for this assumption to hold. From the mean VIF presented in table 4.5 above

(4.83), it is safe to say that there were no multicollinearity problems in the dataset or that the independent variables were valid and none was recommended to be excluded.

Table 4.6: Hierarchical regression output

Variables	Model 1 (Coeff., p-val)	Model 2 (Coeff., p-val)	Model 3 (Coeff., p-val)	Model 4 (Coeff., p-val)	Model 5 (Coeff., p-val)	Model 6 (Coeff., p-val)	Model 7 (Coeff., p-val)	Model 8 (Coeff., p-val)
fdaq	1.044, 0.010**	0.138, 0.750	-1.883, 0.001***	-3.298, 0.003**	-3.142, 0.005**	-2.824, 0.010**	-2.598, 0.023**	-1.822, 0.035**
fdfx					1.478, 0.014**	1.747, 0.004**	1.645, 0.008**	1.658, 0.000***
Fdex						-1.381, 0.023*	-1.315, 0.032*	0.018, 0.969
fimz								0.207, 0.000***
F-statistics (p-val)	6.812(0.010)**	13.319(0.000)***	20.844(0.000)***	16.277(0.000)***	14.701(0.000)***	13.473(0.000)***	11.587(0.000)***	32.143(0.000)***
R^2	0.041	0.145	0.286	0.296	0.323	0.346	0.348	0.630
▲R^2	-	0.104	0.141	0.010	0.027	0.023	0.002	0.282

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Source: Author's computation (2026)

The hierarchical regression was conducted in eight steps to examine how female board characteristics and firm size (FMSZ) explained variation in earnings persistence (EPES). Across all steps, the F-statistics indicated that each model was statistically significant ($p < 0.05$). Overall, the results suggest that FDAQ, FDFX, FDEX, and FMSZ were the most influential predictors of earnings persistence. Notably, firm size amplified the effects of female board characteristics on earnings persistence in the final model.

DISCUSSION OF FINDINGS

Female directors' academic qualification and earnings persistence

Results from Table 4.6 indicated a coefficient of -1.822 with a p-value of 0.035 for the effect of female directors' academic qualification on earnings persistence (EPES) of listed consumer goods companies in Nigeria. These results imply that female directors' academic qualification has a statistically significant effect on earnings persistence. Given that earnings persistence in this study is proxied by standard deviation (earnings volatility), the negative coefficient suggests that higher academic qualification among female directors reduces earnings volatility, thereby improving earnings persistence. In other words, firms with more academically qualified female directors tend to exhibit more stable and predictable earnings over time.

These finding fuels the idea that female directors with strong academic backgrounds, particularly in accounting, finance, or related disciplines, possess the technical competence and analytical skills required to effectively monitor financial reporting processes. Their expertise enhances their ability to question aggressive accounting practices, scrutinize complex financial estimates, and discourage opportunistic earnings management. This leads to more conservative and reliable financial reporting, ultimately resulting in more stable earnings patterns. From a theoretical standpoint, the presence of highly educated female directors strengthens board monitoring effectiveness and reduces information asymmetry. Their competence signals improved governance quality and enhances the credibility of financial reports, thereby promoting earnings stability. This aligns with the expectation that better governance mechanisms contribute to higher earnings persistence through reduced manipulation and improved reporting discipline.

The finding here is consistent with prior empirical studies like Subhani et al. (2025) which reported that female academic qualification is positively associated with financial reporting quality, and Yami et al. (2025) which found that high-quality boards reduce earnings management. Similarly, Hussaini et al. (2024) and Issa et al. (2024) documented that educationally advanced female directors enhance reporting quality, efficiency, and stability; Alharbi et al. (2022) and El-Feky (2023) also provided evidence supporting the positive role of educated female directors in improving earnings quality. However, the result contrasts with Xu (2022) and Sofian et al. (2022), who found no significant effect of female directors' academic qualification on firm performance or earnings management.

Female directors' financial expertise and earnings persistence

Output from Model 8 in Table 4.6 showed a coefficient of 1.658 with a p-value of 0.000 for the effect of female directors' financial expertise (FDFX) on earnings persistence (EPES) of listed consumer goods companies in Nigeria. This indicates a statistically significant effect at the 5% level. Since earnings persistence is measured inversely through earnings volatility, the positive coefficient implies that higher financial expertise among female directors is associated with lower earnings persistence (higher volatility) in the studied firms. This finding is somewhat unexpected given the apriori expectations. Naturally, female directors with financial expertise are believed to enhance board monitoring and reduce managerial opportunism, and by so doing improve earnings quality and persistence. This belief is usually supported by their knowledge in accounting, finance, and auditing equips them to identify irregularities, scrutinize accruals, and strengthen internal controls (Yami et al., 2025; Tamunotonye & Zukbee, 2023). Empirical evidence generally supports their positive contribution to earnings reliability (Qaderi et al., 2024; Efenyumi & Okoye, 2023; Essien & Akpan, 2024).

The result from this study suggests that while financially expert female directors may exert influence over reporting practices, in the consumer goods sector in Nigeria, their presence appears linked to higher earnings volatility or lower earnings persistence. The justification for this could be that these directors actively challenge management judgments, leading to adjustments and reclassifications that temporarily increase reported earnings variability. It is also possible that firms with financially expert female directors pursue more aggressive growth strategies or complex reporting practices, contributing to higher short-term volatility even if long-term reporting quality improves.

Female directors' experience and earnings persistence

Results from Model 8 indicated that female directors' experience (FDEX) has a coefficient of 0.018 with a p-value of 0.969. This result is not statistically significant at the 5% level. Since earnings persistence (EPES) is measured inversely, the positive coefficient would suggest a very slight decrease in earnings persistence as the proportion of experienced female directors increases. However, the effect is negligible and cannot be confidently distinguished from zero. This implies that the presence of female directors of 45 years and above with over 5 years' experience does not meaningfully influence the stability or reversibility of reported earnings among the studied consumer goods companies in Nigeria. A plausible explanation for this finding is that while experienced female directors bring contemporary governance knowledge, recent academic and professional training, and potentially higher cognitive flexibility, their smaller representation on boards may limit their influence on financial reporting decisions. Empirical studies had provided mixed evidence on the subject matter. This study's finding is contrary to those of Abata et al. (2024) and Ullah et al. (2023) which argued that younger experienced female directors enhance earnings quality due to contemporary skills and adaptability. Amara et al. (2025) and Essien & Akpan (2024) reported that experience diversity among female directors has no statistically significant effect on earnings management or earnings persistence, which aligns with the current finding. Collectively, this result is also due to the fact that experienced female directors were poorly represented on boards of the studied firms.

CONCLUSION

This study examined the effect of female directors' characteristics on the earnings quality of listed consumer goods companies in Nigeria, with earnings quality measured by earnings persistence. The findings demonstrated that female directors do not influence earnings quality uniformly; rather, the effect depends on the specific attributes and governance roles they possess. Overall, the study concluded that the quality of female directors' characteristics is more important than the quantity of female directors in enhancing earnings quality. Specifically, the educational qualifications and governance competencies of female directors play a more decisive role than demographic characteristics or simple board presence. Consequently, it was recommended that the management of listed consumer goods firms should accord greater importance to the appointment of female directors with post graduate qualification. Also, the management of consumer goods firms should move beyond mere gender inclusion and focus on competence, independence, and active participation of female members.

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