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BOARD ATTRIBUTES AND EARNINGS MANAGEMENT OF LISTED MANUFACTURING FIRMS IN NIGERIA: THE MODERATING ROLE OF BOARD ACCOUNTING EXPERTISE

ABRAHAM ADAMU ONAJI[1], AHMAD BUKOLA UTHMAN[2], LUCKY OTSOGE ONMONYA[3] and OLALEKAN KASEEM OLATUNJI[4]

[1,2,3,4]Department of Accounting, Nile University of Nigeria, Abuja.
Email: [1]abraham.onaji@nileuniversity.edu.ng, [2]ahmad.uthman@nileuniversity.edu.ng,
[3]lucky.onmonya@nileuniversity.edu.ng , [4]266180008@nileuniversity.edu.ng

Abstract

This paper investigates whether a board's size and a board's independence influence a firm's outcome of earnings management, and whether accounting competence of its directors influences this relationship in manufacturing listed firms in Nigeria. It analysed a sample of 38 listed firms covering the period 2015-2024, extracting the data from published annual reports and other relevant company disclosures. Earnings management was proxied by discretionary accruals and estimated using panel-data random-effects regression. In the estimates, all the coefficients for board size and independence are negative yet not statistically significant, while the board accounting expertise coefficient is negative and statistically significant in the moderated specification. Neither the coefficient for the interaction term between board size and accounting expertise nor that for the interaction term between board independence and accounting expertise is statistically significant. It concludes that expertise in accounting within a board is associated with a lower firm- level measure of earnings-management, but the study does not substantiate its influence on the relationship between either board size or independence and earnings management. It encourages firms to consider directors' expertise in accounting, auditing and financial reporting as well as their oversight roles.

Keywords: Board Accounting Expertise; Board Independence; Board Size; Earnings Management; Corporate Governance; Discretionary Accruals.

1. INTRODUCTION

Trustworthy financial reports enable investors, lenders, regulators, and other stakeholders to evaluate an organisation's position and performance. Financial statements only have value for decision-making when they faithfully reflect the economy to a reasonable degree and when they contain information that enables well-informed decisions to be made. In particular, reported earnings garner great scrutiny since they are the basis for a firm's valuation, lending decisions, and performance, as well as a significant factor in contractual arrangements. When in fact, they are the product of self-interested accounting choices rather than the economy, they can mislead users and distort capital allocation (Dechow, Ge, & Schrand, 2010; Dechow, Hutton, Kim, & Sloan, 2023).

Earnings quality is still a problem, as it is part of management's judgement while implementing accounting standards and estimating the amounts. Having some degree of discretion is not necessarily malicious: certain decisions might have to be taken when the transactions are extremely complicated or the results are very difficult to predict. The problem comes if these

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choices are used to cover up the true economic health of the firm. Several studies define earnings management as the intervention of a manager in the financial accounts or the business to alter the information that is shown to the users (Healy and Wahlen, 1999; Dechow et al., 2023).

Managers may have incentives to influence reported results for several reasons, including meeting analysts' expectations, avoiding a reported loss, satisfying debt-related conditions, affecting share-price perceptions or improving compensation and job security (Roychowdhury, 2006; Kazemian & Mohd Sanusi, 2015; Fitrasari, 2023). Where such actions obscure the company's underlying performance, they weaken confidence in the information available to investors and other stakeholders.

Corporate governance are the structures through which owners and other stakeholders monitor management and exert accountability on decision makers (OECD, 2015). This involves the system of rules, relationships and processes by which an organisation is directed and controlled, which include measures for ensuring stakeholder interests (Adebiyi, 2017). At the heart of the corporate governance structure is the board of directors, who challenge significant decisions, oversee and monitor management and monitor the preparation of financial information, where their contribution is impacted by formal composition and whether they can exercise well informed independence of judgement (Enofe, Iyafekhe, & Eniola, 2017; Nguyen, Ntim, & Malagila, 2023).

One of the defining characteristics of a company's governance is the number of directors who sit on the company's board of directors. A greater size of the board can have advantages of gaining a wider professional expertise, knowledge and external connections needed for proper overseen – these resources could support directors to scrutinise the management and require more thoughtful reporting decisions. Nevertheless, more board members can hinder coordination and consensus-building, elongate discussion and create diffuse responsibility. The impact of board size on earnings management would not necessarily be linear (Vafeas, 2020).

The potential disadvantages of a large board arise when more participants create communication and coordination costs. If discussions become cumbersome or responsibility is dispersed, directors may find it harder to reach timely decisions or monitor management consistently. Board size should consequently be considered alongside how effectively the board organises its work and fulfils its oversight duties.

Defining Board independence (BOIND) in this study as the proportion of outside directors, independent non-executive directors (INED). They are presumed to evaluate proposals from management with less managerial influence and to probe against any attempts of accounting judgements when required. In principle, the formal independence could enhance the monitoring of financial disclosures and inhibit opportunistic behaviour; however, the effective monitoring of independence may be questionable and conflicting evidence have been obtained (Bravo & Reguera-Alvarado, 2018; Saona et al., 2019).

Board structures may be more effective when directors also possess the technical competence required to evaluate complex financial information. Accounting expertise is relevant because

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financial statements often depend on estimates, judgements and interpretations of accounting standards. Directors who understand these matters may be better equipped to identify questionable reporting choices and ask management for adequate explanations.

In this study, accounting competence is defined as the relevant financial, accounting and auditing expertise or experience of directors in accounting and financial reporting. This knowledge of accounting potentially provides directors with an understanding of financial information and enables directors to evaluate managerial estimates and accounting numbers as well as facilitating recognition of aggressive accounting practices (Kankanamage, 2015; Hemathilake, Ruparatne, & Meegaswatte, 2019; Badolato, Donelson, & Ege, 2014; Osemeke & Adegbite, 2022).

Accounting knowledge might interact with structural characteristics such as board size and board independence. A board may be statistically large or have enough independent directors on paper, but it can lack accounting expertise to evaluate tough reporting issues. An accountant director can make observation of formal monitoring role into a closer inspection of financial figures and management decisions, which can make this a reason to investigate whether accounting expertise interacts with the effects of board size and board independence on earnings management (Sun, Liu, & Lan, 2019; Fitrasari, 2023; Nguyen et al., 2023).

These questions are important in Nigeria, where corporate-governance reforms have sought to strengthen accountability and improve reporting practices. The quality of board oversight remains relevant because formal rules achieve their intended effect only when firms implement them and directors exercise their responsibilities effectively. International corporate failures, including Enron and WorldCom, prompted governance reforms across several jurisdictions; Nigeria also introduced the Nigerian Code of Corporate Governance in 2018 as part of its reform efforts (FRCN, 2018; Osemeke & Adegbite, 2022).

The report still was having issues about the financial reporting. The Cadbury Nigeria Plc accounting scandal was a topic in the Nigerian writers as an issue that called into question the effectiveness of the arrangements for governance and supervision (Okaro & Okafor, 2011; Aifuwa & Embele, 2019). These examples are showing why the directors or even their independent members are inadequate. Effective supervision can also rest on the ability of the directors to challenge the reporting decision.

Previous research has provided mixed findings regarding the association between board size and board independence and earnings management. While some evidence shows that these governance mechanisms constrain earnings management others show inconsistent, weak or opposite relationship (Bravo & Reguera-Alvarado, 2018; Saona et al., 2019). It is believed that different types of national institution and enforcement as well as industry and research design might have accounted for this discrepancy. Despite the recognition of accounting expertise as a valuable governance resource little was written on its moderating effect in Nigerian listed manufacturing companies.

Manufacturing is a vital component of Nigeria's dynamic productive economy given its ability to create jobs, to add value to the economy, and to diversify its sources of income. Accounting

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firms within the manufacturing industry face unique financial challenges, such as costs, foreign exchanges variations and challenges of fierce competition, that require investment to ensure satisfactory outcomes. As such, this paper investigates the effectiveness of accounting practitioners in enhancing the monitoring efficiency of board size and independence in the composition of listed manufacturing firms.

Considering these concerns, this paper will address the research questions:

i. How far does the size of the board influence the margin management of listed manufacturing companies in Nigeria?

ii. Is there an influence of board independence on the earning management of listed manufacturing firms in Nigeria?

iii. How much does the level of accounting knowledge or accounting expertise have a moderation effect on how the volume of board members affects the earnings management practice of trading manufacturing firms operating in Nigeria?

iv. Do accounting experts moderate the relationship between board independence and earnings management of listed manufacturing firms in Nigeria?

The following Null hypotheses were proposed and tested for the study:

H01: Board size has no significant impact on earnings management practices of the listed manufacturing companies in Nigeria.

H02: Effect of board independence on the earnings management of listed manufacturing firms in Nigeria.

H03: There is no significant effect of the moderating influence of accounting expertise on the relationship between board size and earnings management of listed manufacturing firms in Nigeria.

H04: The moderating effect of accounting knowledge on the impact of board independence is insignificant for the earnings management of listed manufacturing companies in Nigeria.

In light of this, this paper assesses the board size-earnings management relationship and board independence-earnings management relationship in Nigerian listed manufacturing companies with board accounting knowledge as a potential moderator. The paper covers introduction, theoretical concepts and prior evidence; research design and variable measurements; panel data analysis and; discussion of findings and conclusions.

2. REVIEW OF RELATED LITERATURE

2.1 Conceptual Review

This part describes the main constructs and how they are built including earnings management, Board size, Board independence and board accounting expertise.

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2.1.1 The Concept of Earnings Management

Earnings management is defined as the use of manager's discretion over accounting policies and estimates, or operational decision to achieve earnings figures desired by the manager for presentation to external users of financial information. Earnings management has the potential to distort performance and therefore is more unrepresentative of a firm's underlying economics if the discretion is taken opportunistically (Healy & Wahlen, 1999).

It may involve changes to estimates, accounting treatments or real business decisions intended to reach a reporting objective. Potential motives include avoiding losses, meeting performance targets, complying with contractual conditions or influencing remuneration and market perceptions (Dechow, Ge, & Schrand, 2010; Roychowdhury, 2006; Kazemian & Mohd Sanusi, 2015).

2.1.2 Concept of Board Size

Size of the board as measured by the number of directors at the end of the financial year A board with larger number of directors may have a broader base of skills and experience, which is indicative of superior monitoring. Or larger boards may be costlier to coordinate and communicate, and therefore less effective in monitoring than smaller ones. Therefore, the implication of board size on earnings management has to be tested empirically (Vafeas, 2020).

2.1.3 Concept of Board Independence

Independence of the board is defined as the ratio of independent directors over total number of directors. Independent non-executive directors are presumed to offer a more objective viewpoint during board discussions and to challenge the decisions made by management. Their presence may enhance the clarity and control of financial reporting, but the objective independence of directors does not automatically guarantee an effective challenge to management. Therefore, the evidence in the literature is varied across contexts (Bravo & Reguera-Alvarado, 2018; Saona et al., 2019).

2.1.4 Concept of Accounting Expertise

This is the percentage of directors who have an accounting or auditing background or are professionally qualified accountant or have professional experience in accounting, auditing, finance or financial reporting. The expertise is necessary to enable directors to properly understand financial reports, assess estimates and disclosure choices that need to be examined more closely. It can, thus, foster more rigorous surveillance and accountability (Kankanamage, 2015; Hemathilake et al., 2019).

2.2 Theoretical Review

A number of different theories underpin research in the area of corporate-governance, e.g. agency, resource-dependence, stewardship and stakeholder theories. This particular paper draws mainly on Agency Theory, since this research examines the monitoring function of the board and, as a result, the incentives managers might have to manipulate their results for their own benefit.

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The agency theory, which explains the interaction between principals (owners i.e. shareholders) and agents (managers) who are responsible for overseeing decision making, supports the existence of the manager's financial interests. The discrepancy between the manager's and owner's objectives indicates that the former may engage in activities promoting their own interest or manipulate financial results that may be irrelevant to owners' interests (Jensen & Meckling, 1976; Healy & Wahlen, 1999; Dechow, Sloan, & Sweeney, 1996).

Within this perspective, the board acts as an internal oversight mechanism. By reviewing management decisions and financial reporting, directors can reduce information gaps and help align managerial conduct with shareholders' interests. Board size, independence and directors' professional qualifications may affect how well this monitoring function operates (Xie et al., 2003; Klein, 2002; Osemeke & Adegbite, 2022). The value of these mechanisms, however, depends on their actual effectiveness rather than their formal existence alone.

Agency Theory places strong emphasis on control and monitoring, but it may not fully capture the ways directors contribute through their knowledge, experience, networks and problem-solving abilities. "Hillman and Dalziel (2003)" argue that boards can provide both monitoring and resources. This broader view is relevant because accounting expertise may strengthen a board not only by helping it detect problems but also by improving the quality of its deliberations.

In this study, accounting expertise is treated as a potential resource that can improve the board's capacity to scrutinise financial reporting. Directors with relevant experience may be more capable of interpreting complex statements and identifying aggressive accounting choices (Dhaliwal, Naiker, & Navissi, 2010; Badolato et al., 2014). Such expertise could reinforce the monitoring associated with board size or independence, although the strength of that interaction must be established empirically.

Agency Theory therefore provides the principal explanation for why board oversight may be associated with earnings management. It also supports examining whether accounting expertise makes the board's monitoring arrangements more effective. The study tests these expectations rather than presuming that a particular board structure necessarily produces lower earnings management.

2.3 Empirical Review

Empirical findings on board characteristics and earnings management vary by country, industry, sample and method. The studies reviewed below provide evidence on the possible role of accounting expertise and board composition, while also identifying limitations in applying results from other settings directly to Nigerian manufacturing firms.

Kankanamage (2015) studied audit committee characteristics, accounting expertise and earnings management for listed companies in Sri Lanka. The study used 14 years of annual-report data and regression analysis. A negative relationship was found between knowledge and earnings management. This finding confirms that financial expertise can enable directors to

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identify the options for discretionary reporting, although different institutional contexts indicate that the finding may not generalise to Nigeria.

Obigbemi et al. (2016) applied Nigerian annual-report data and panel regression to examine board characteristics and earnings management. They concluded that board characteristics were relevant to earnings quality; however, the impact of each characteristic was inconsistent. As this was conducted before recent changes in Nigerian corporate-governance regulation, additional evidence with newer data is valuable.

Bravo and Reguera-Alvarado (2018) examined non-financial companies that were listed in Spain and found a negative relationship between board independence and earnings management. Their finding supports the assertion that independent directors may enhance the monitoring of the managers' reporting process. Nevertheless, variations in regulatory enforcement and institutional environment discourage generalisability to Nigeria.

Saona et al. (2019) examined board gender diversity and managerial opportunism in European countries. Their results provided evidence that gender balanced boards constrained earnings management. While this research examines another attribute of board composition, it demonstrates a possible relationship between board composition and reporting behaviour. As the European jurisdiction is not Nigeria, this should be considered just as comparative evidence not a predictor of similar results for this sample.

Sun, Liu and Lan (2019) explored expertise and directors' monitoring function in financial reporting. Their debate indicates it is critical to differentiate between the types of expertise, and contemplate whether directors are able to implement their knowledge. This is relevant to this research as a director with an accounting background may not be valuable unless it comes in the form of a rigorous line of questioning.

Aifuwa and Embele (2019) studied ‘corporate-governance mechanisms and earnings management among Nigerian listed firms’. They reported that some governance variables were associated with lower earnings management, whereas others did not show statistically significant effects. Their findings reinforce the need to assess individual board characteristics rather than treating governance as a single, uniform mechanism.

Osemeke and Adegbite (2022) on ‘corporate-governance practices and regulatory change in Nigeria’ highlight that reform cannot solve all of the problems that come with board effectiveness and quality of reporting. Directors' expertise and knowledge is still significant to transparency and accountability, and as such provides the justification to investigate accounting professionalism in conjunction with structural board measures.

Fitrasari (2023), there is no relationship between board size and accrual-based earnings management or real earnings management for firms in the S&P 500. Similar findings were reported by Githaiga, Kabete and Bonareri (2022) where there was no relationship between board size and earnings management by East African firms. Duna, Ahmed and Yahaya (2025) found a positive relationship between board size and earnings management among listed

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consumer-goods firms in Nigeria. From the three studies, the authors could argue that the effect of board size may be context dependent.

Mardianto and Dwiyanti (2024) examined a range of board and audit-committee characteristics. They reported positive associations between earnings management and several monitoring-related variables, including board independence and audit-committee activity, while board size and expertise did not show significant effects. The findings add to the mixed evidence and underline the importance of examining context and measurement choices.

Mengjia and Jingxuan (2025) proposed a conceptual framework linking several board attributes—including independence and directors' financial backgrounds—to earnings management. Because their work is theoretical rather than an empirical test using the Nigerian manufacturing sector, it is useful as a framework for future research but does not establish the relationships in the present sample.

Sakhil et al. (2024) analysed accounting knowledge as a moderating variable of association between board features and earnings administration with data from Iraq stock exchange companies. They revealed that accounting knowledge moderated few connections between board features and earnings administration. The finding confirms that expertise can constrain for certain association of corporate governance mechanisms but their setting varies from Nigerian manufacturing firms. Yusuf, Usman and Yahaya (2025) observed a negative and significant association between board independence and discretionary accruals. These results are in line with the argument that independent directors impose higher monitoring to curb opportunistic reporting. The finding is in line with other research that finds no significant relationship. There are some other similar studies (e.g. Abubakar and Yahaya, 2025, Abu-SIAM and Laili, 2024, Joseph, Abdullahi and Gugong, 2023 and Aleqab and Ighnaim, 2021) that also study board independence and earnings management in other contexts (different nations and industries). The findings reported by those studies appear to be consistent with the constraints on earnings management imposed by independent directors, although differences in contexts and measures need to be taken into account. Earlier studies have reached inconsistent results about the nature of association between board size, board independence, accounting knowledge and earnings management. The literature has some supporting theories as to why monitoring by the board or the presence of accounting expertise should influence earnings management but the reported findings of effect were inconsistent across samples and methodologies. There is still unexplored space on whether accounting expertise moderates the association between board size, board independence and earnings management in the context of listed manufacturing companies in Nigeria. This study contributes to this gap with panel data of 2015-2024.

3. METHODOLOGY

Ex-Post Facto research design was adopted for this study since the variables were not manipulated but observed in the past disclosures of the companies. The population of this study consisted of 56 companies manufacturing company listed on the Nigerian Exchange Group as at 31 December 2024. Purposive sampling technique based on listing of companies and data

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availability yielded a sample size of 38 companies. The panel span ten financial years from 2015 to 2024 and made up of published annual reports, websites, and NGX Fact Books.

Dependent variable Earnings management (EM) measured using discretionary accruals. Independent variables Board size (BSZ) and board independence (BIN), moderating variable board accounting expertise (BAE). Control variables in this study are firm size (FSZ), return on assets (ROA) and firm age (AGE). Procedure used is descriptive statistics, correlation and diagnostic testing of the data followed by estimation of panel-data regressions and moderation using interaction terms between the moderating variable accounting expertise and each of the two board characteristics studied.

Table 1: Variable Measurement

No.	Variable	Notation	Types of Variables	Measurement	Source
1	Earnings Management	EM	Dependent	Cash flow from operating activities (Earnings before tax + interest paid interest received)/total assets	Saona et al. (2020)
2	Board Size	BSZ	Independent	Total number of board members as at the end of each financial year	Nguyen, Ntim and Malagila (2023); Vefas (2020)
3	Board Independence	BIN	Independent	Ratio of independent directors to board size at end of financial year	Khidmat (2024); Badu (2020); Aifuwa and Embele (2019)
4	Board Accounting expertise	BAE	Moderating	Ratio of number of directors with accounting expertise to number of board members	Osemeke and Adegbite, (2022); Aernan, Emengini and Okonkwo, (2023)
5	Firm size	FSZ	Control	Natural logarithms of total assets	Ali (2020); Hussain (2020) Rajeevan and Ajward (2019).
6	Return on Asset	ROA	Control	Net profit after tax is divided by total assets, as the control variables.	Usman and Ab Rahman, (2020), Putra and Mela (2019),
7	Firm Age	AGE	Control	Year of incorporation	Aernan, Emengini and Okonkwo, (2023)

Source: Author's compilation, 2026

3.2 Model Specification

The model specifications are consistent with the conceptual framework of the study and previous empirical studies, particularly with those by Yusuf, Usman and Yahaya (2025) and Fitrasari (2023). Earnings management is measured by the standard discretionary accruals estimated using the modified Jones model.

The direct-effects model is regressed to explore the relationship of board size, board independence and accounting expertise with earnings management, of course with the proxy

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for firm size, profitability and age. The moderated model is regressed to include the interaction between board size with accounting expertise and board independence with accounting expertise.

Direct Effect Model

Earnings Management Model

NDACCit = TACCit – DACCit …….…….. (i)

$$EM_{it} = \beta_0 + \beta_1 BSZ_{it} + \beta_2 BIN_{it} + \beta_3 BAE_{it} + \beta_4 FSZ_{it} + \beta_5 ROA_{it} + \varepsilon_{it} \ldots..(ii)$$

Moderated Regression Model

$$EM_{it} = \beta_0 + \beta_1 BSZ_{it} + \beta_2 BIN_{it} + \beta_3 BAE_{it} + \beta_4 (BSZ_{it} \times BAE_{it}) + \beta_5 (BIN_{it} \times BAE_{it}) + \beta_6 FSZ_{it} + \beta_7 ROA_{it} + \varepsilon_{it} \ldots.(iii)$$

4. DATA ANALYSIS, RESULTS AND DISCUSSION

Table 2: Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
EM	380	0.629	0.642	0.006	3.959
BSZ	380	8.950	2.650	3	17
BIN	380	0.184	0.149	0	0.600
BAE	380	0.183	0.115	0	0.556
FZ	380	10.298	2.041	6.041	16.215
ROA	380	0.040	0.136	-1.038	0.804
AGE	380	51.632	19.147	11	102

Source: Author's Computations, Stata 17, 2026

Table 2 presents data for 380 firm-year observations from the 38 manufacturing firms in our sample. The earnings-management variable has a mean of 0.629, a standard deviation of 0.642 and a minimum of 0.006 and a maximum of 3.959. The mean board size was 8.95 directors per board and ranged from 3 to 17 directors per board. Board independence had a mean of 0.184 and ranged from 0 to 0.600, while the mean and maximum values for the proportion of each board with accounting expertise was 0.183 and 0.556, respectively. These data provide us with variations in both the reported earnings-management measure and the composition of the board of directors.

For the control variables, sample mean and standard deviations are 10.298 and 2.041 for firm size, 0.040 and 0.136 for return on assets, respectively. Implies high variation across the observations in profits.

The sample mean and standard deviations for years of firm age are 51.632 and 29.646 and number of years range from a minimum of 11 to a maximum of 102 years. These descriptive statistics suggest variation in size, organisational age, and profits across firms. These should be interpreted in line with the exact definitions of the variables and the units in the data.

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Diagnostic Test

Table 3: Multicollinearity Test

	BASELINE		MODERATED	
VARIABLES	**VIF**	**1/VIF**	**VIF**	**1/VIF**
BSZ	1.30	0.770	1.70	0.587
BIN	1.11	0.897	2.02	0.494
BAE	1.03	0.973	1.41	0.711
BSZBAE			1.52	0.658
BINBAE			2.11	0.473
FSZ	1.24	0.804	1.71	0.584
ROA	1.07	0.931	1.06	0.942
AGE	1.10	0.910		
Mean	**1.14**		**1.65**	

Source: Author's Computations, Stata 17, 2026

The variance inflation factors reported in Table 3 are low in both specifications: the mean 'VIF is 1.14' for the baseline 'model and 1.65' for the moderated model. The largest reported VIF is 2.11. These values do not indicate a serious multicollinearity concern under the commonly used threshold of 10, although VIF results alone do not establish that every other regression assumption has been met.

Table 4: Others Diagnostic Tests

Diagnostic test	Baseline Statistic	p-value	Moderated Statistic	p-value
Shapiro–Wilk normality test (W)	10.530*	<0.001	10.409*	<0.001
Breusch–Pagan/Cook–Weisberg heteroskedasticity test (χ^2)	42.37	<0.001	58.94	<0.001
Autocorrelation test	0.135	0.715	0.117	0.734
Cross-sectional dependence test	−0.034	0.973	−1.025	0.305
Hausman specification test (χ^2)	5.96	0.428	8.38	0.397
Breusch–Pagan LM test for random effects (χ^2)	45.17	<0.001	38.44	<0.001

Source: Author's Computations, Stata 17, 2026

The Hausman tests are not statistically significant for either specification ($p = 0.428$ for the baseline model and $p = 0.397$ for the moderated model), so the reported tests do not provide evidence against the random-effects specification. The 'Breusch–Pagan Lagrange Multiplier' statistics are significant ($p < 0.001$), indicating that panel-level effects are present relative to a pooled model. The heteroskedasticity tests are also significant in both models ($p < 0.001$), making an appropriate robust variance estimator important. The autocorrelation and cross-sectional-dependence tests are not statistically significant at conventional levels. The normality-test results indicate departures from normality, which should be considered when interpreting the estimates and inference.

Taken together, the diagnostics are consistent with using a panel-data approach and the reported random-effects specification, while the heteroskedasticity results call for robust standard errors.

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The diagnostic results should not be described as showing an insignificant Breusch–Pagan LM test, because the reported p-values are below 0.001.

4.1 Model Estimation and Results

Table 5: Random Effect Regression Model

	Baseline				Moderated			
	COEF	STD. ERR.	z	P>z	COEFF	STD. ERR.	Z	P>z
BSZ	-0.020	0.082	-0.25	0.804	-0.013	0.086	-0.16	0.877
BIN	-0.119	0.207	-0.58	0.565	-0.269	0.249	-1.08	0.280
BAE	-0.013	0.008	-1.62	0.108	-0.025	0.008	-2.96	0.003
BSZBAE					-0.015	0.037	-0.40	0.688
BINBAE					-0.009	0.009	-1.10	0.270
FSZ	0.049	0.011	4.32	0.000	0.049	0.049	4.14	0.000
ROA	0.339	0.237	1.43	0.153	0.338	0.240	1.41	0.160
AGE	-0.002	0.002	-1.32	0.186	-0.002	0.016	-1.35	0.177
Constant	-0.605	0.173	-3.49	0.000	1.681	2.087	0.81	0.420
R-Squared	0.153				0.161			
Wald- chiq	22.46				30.90			
Prob>chiq	0.001				0.000			
No of Firms	38				38			

Source: Authors Computations, Stata 17, 2026.

The baseline regression accounts for 15.3% of the 'observed variation in the dependent variable' ($R^2 = 0.153$) is jointly significant (Wald $\chi^2 = 22.46$, $p = 0.001$). The moderated specification reports $R^2 = 0.161$ and a Wald χ^2 of 30.90 ($p < 0.001$), represent an increase of 0.8 percentage points in explained variation. The modest change in R^2 is considered alongside the statistical significance of the individual interaction terms, rather than interpreted by itself as evidence of moderation.

5. DISCUSSION OF FINDINGS

Board Size and Earnings Management

In the base model, the coefficient of board size is negative ($\beta = 0.020$) and statistically insignificant ($p = 0.804$). The sign supports the possibility that larger boards could possibly examine from a broader spectrum of views, but because the p-value indicates the sample fail to support a dependable link, the affirmation shouldn't be understood as proof that bigger boards lower earnings management. Our result contrasts with a natural hypothesis: that larger boards enhance oversight. More directors will increase the flow of information to the board but the costs of coordination and diffuse responsibility diminish the quality of monitoring. Our estimate cannot distinguish among these two alternative hypotheses, though the finding that it is statistically insignificant, it cannot rule out the latter hypothesis.

Board Independence and Earnings Management

Similarly, the independent board variable has a negative coefficient in both the baseline model ($\beta = 0.119$, $p = 0.565$) and in the moderated model ($\beta = 0.269$, $p = 0.280$). Neither is statistically significant.

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The negative signs are in accordance with the hypothesis that independent directors are likely to lower earnings management by limiting managerial opportunistic behavior, although the estimates are not statistically significant for this sample.

This finding is not definitive evidence of an effect, despite the fact that it is in the same direction as research that draws attention to the monitoring function of outside directors. Discrepancies with other results might be due to institutional context, or context related effects, such as industry, measurement, or the opportunities for action open to outside directors. The present results should be seen as specific to the sample used. The moderation effect of accounting expertise is evaluated by the interaction terms of each board characteristic and the measure of expertise.

The interaction term between the two variables in the specified model is negative and insignificant for board size and accounting expertise ($\beta = 0.015$, $p = 0.688$). The tables do not provide evidence that there is a significant moderating effect of accounting expertise on the relationship of earnings management and board size. Another negative but statistically insignificant interaction term is the combination of board independence and accounting expertise ($\beta = 0.009$, $p = 0.270$). Based on this analysis we do not find any significant moderating effect. The direct coefficient for board accounting expertise in the moderated model is both negative and statistically significant ($\beta = 0.025$, $p = 0.003$). This indicates that when the other variables in the model are held constant, a higher level of accounting expertise is associated with a lower earnings-management measure.

Despite the resource-based reasoning that specialist knowledge may serve to strengthen board monitoring, the interaction estimates in this paper do not indicate that the accounting specialization plays a role in strengthening the effects of other structural variables on earnings management. An alternative explanation may be that expertise is simply associated with reporting oversight, and not specifically associated with moderating the effects of the other structural variables. This could be tested with other measures of reporting oversight, using other samples. The estimated coefficient for the board-independence-by-expertise interaction is -0.009, with $p = 0.270$. Since this estimate is not statistically significant, its negative sign alone is insufficient to support a moderating effect. The interpretation should be based on the coefficient and its uncertainty together, rather than on direction alone.

Overall, the interaction tests do not provide statistically significant evidence that accounting expertise moderates either the board-size relationship or the board-independence relationship. The study's moderation hypotheses are therefore not supported by the reported estimates, even though accounting expertise itself has a 'statistically significant negative coefficient' in the moderated model.

6. CONCLUSION AND RECOMMENDATIONS

Conclusion

This research studied the effect of board size and independence on earnings management in 38 Nigerian listed manufacturing firms for the period 2015-2024 and also tested whether board

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accounting expertise moderates the two relations. The results indicate negative coefficients for the effect of board size and board independence on earnings management which are statistically insignificant. Board accounting expertise appears to be negatively correlated with earnings management and is statistically significant in the moderated specification.

However, neither interaction term is statistically significant. The evidence therefore supports attention to directors' accounting expertise, but it does not establish that expertise changes the effects of board size or independence in this sample. These conclusions are limited to the firms, period, measures and models used in the study.

RECOMMENDATIONS

The following three primary recommendations are concluded from the study:

First, firms should consider accounting, auditing, finance and financial-reporting competence when nominating directors, while also assessing candidates' independence and willingness to challenge management.

Second, boards should focus on the quality of oversight, clarity of responsibilities and 'effectiveness of committee work rather than if increasing the number of directors' will automatically improve reporting.

Third, independent directors should receive timely access to relevant financial information and opportunities for training so they can question material estimates and reporting judgements. These recommendations reflect the significant direct association found for accounting expertise, while recognising that the two tested moderation effects were not statistically significant.

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