

The Impact of Audit Committee Expertise and Gender Diversity on Financial Performance through Earnings Management as A Mediating Variable: Evidence from Iraq

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Abstract

This study investigates the effect of audit committee characteristics, specifically gender diversity and accounting expertise, on the financial performance of Iraqi non-financial listed firms, with earnings management serving as a mediating variable. The sample comprises 35 firms listed on the Iraq Stock Exchange over 13 years (2011–2023). A two-step system Generalised Method of Moments (GMM) estimator was employed to address issues of endogeneity, heterogeneity, and simultaneity. The results reveal that audit committee accounting expertise significantly improves accounting-based measures of financial performance (ROA and ROE), although its effect on market valuation (Tobin's Q) is negative. Gender diversity demonstrates a significant negative effect on performance but reduces earnings management, highlighting its role in strengthening monitoring effectiveness. Earnings management itself exerts a dual effect: it temporarily increases shareholder returns (ROE) but reduces asset profitability (ROA) and market valuation (Tobin's Q). Mediation analysis confirms that earnings management partially mediates the relationship between audit committee attributes and financial performance, particularly with respect to ROA and Tobin's Q. Overall, this study contributes to the corporate governance literature from an emerging market perspective by providing evidence on how audit committee structures influence both financial reporting quality and firm performance. The findings have important implications for policymakers, regulators, and stakeholders, emphasising the need to enhance audit committee effectiveness to reduce earnings manipulation and ensure sustainable financial performance in Iraqi firms.

Keywords: Audit Committee Characteristics, Earnings Management, Financial Performance

Introduction

Corporate governance has become a central concern globally, particularly in emerging markets where weak regulatory frameworks and ownership concentration often increase the likelihood of opportunistic managerial practices. Among the governance mechanisms, the audit committee is widely recognised as one of the most critical structures for enhancing the credibility of financial information and safeguarding stakeholder interests. Its primary role is to oversee the quality of financial reporting, mitigate earnings management, and ensure transparent disclosures. However, the effectiveness of audit committees depends largely on their composition, especially characteristics such as gender diversity and accounting expertise, which are expected to enhance the committee's monitoring capacity and reduce the risk of financial manipulation (Alodat et al., 2023; Mardessi, 2021; Walton & Tribbitt, 2023).

Earnings management (EM) remains one of the most contentious practices in accounting research, as it involves the discretionary manipulation of reported earnings using accounting choices and estimates. While some scholars view EM as a potential means of signalling private information, the prevailing consensus emphasises its detrimental impact on earnings quality, investor confidence, and long-term firm performance. Audit committees, by virtue of their independence, diversity, and expertise, are considered essential in constraining these practices (Almarayeh et al., 2022; Nikulin et al., 2022). In particular, gender-diverse audit committees are believed to provide broader oversight perspectives, while members with accounting expertise strengthen the technical ability to detect and challenge opportunistic reporting (Ali, 2024)(Majumder et al., 2024).

The Iraqi context offers a distinctive environment for studying these relationships. Despite gradual reforms, corporate governance practices in Iraq continue to lag behind international standards, with many firms facing high ownership concentration, limited enforcement of regulations, and weak investor protections (Ahmed & Hågen, 2023). These institutional weaknesses create conditions conducive to earnings manipulation and raise concerns about the capacity of audit committees to fulfil their monitoring role effectively. Moreover, previous studies have documented significant associations between audit committee characteristics and firm performance in other contexts (Karim et al., 2024).

Despite considerable research, important gaps remain. First, the impact of gender diversity in audit committees has been insufficiently studied in the Middle East, where women face significant cultural and institutional barriers. Second, the role of accounting expertise in environments with weak governance, such as Iraq, remains underexplored, raising questions about its actual effectiveness. Third, while the mediating role of earnings management is theoretically plausible, few empirical studies test it rigorously, especially in emerging economies. Finally, empirical evidence from Iraq remains scarce and inconsistent. Importantly, most prior research has examined only the direct link between audit committee attributes and financial performance, while neglecting the potential mediating role of EM in explaining this relationship.

This study addresses these gaps by providing robust evidence from an underexplored emerging economy. Specifically, it aims to examine the impact of audit committee expertise and gender diversity on earnings management and financial performance, with earnings management serving as a mediating variable. The research focuses on non-financial firms listed on the Iraq Stock Exchange (ISX) over the period 2011–2023, thereby capturing a crucial stage in Iraq's corporate governance evolution. The findings are expected to yield both theoretical and practical insights that will assist regulators, policymakers, and corporate stakeholders in enhancing audit committee effectiveness and strengthening overall corporate governance practices in Iraq.

Theoretical Framework and Literature Review

Theoretical Framework

Corporate governance research has been guided by multiple theoretical perspectives, most prominently agency theory, resource dependence theory, stakeholder theory, and institutional theory. These frameworks often complement one another but can also generate conflicting predictions regarding the effectiveness of governance mechanisms. Among them, agency theory (Jensen & Meckling, 1976) remains the dominant lens for understanding the role of audit committees. It posits that managers, as agents, may engage in opportunistic behaviour such as earnings manipulation to maximise their personal benefits at the expense of shareholders. Audit committees, therefore, serve as crucial monitoring mechanisms that help mitigate this agency conflict. Attributes such as gender diversity and accounting expertise strengthen monitoring by adding independence, ethical sensitivity, and technical competence, thereby improving the reliability of financial reporting and protecting shareholder interests (Attia et al., 2024; Maji & Saha, 2021).

Complementing this view, resource dependence theory (Pfeffer & Salancik, 1978) emphasises that boards and committees not only monitor management but also provide organisations with critical resources. These resources include knowledge, expertise, legitimacy, and access to external networks. In this regard, female directors contribute unique perspectives, ethical awareness, and stakeholder orientation, while accounting experts supply technical proficiency and credibility. Together, these attributes serve as intangible strategic resources that reduce information asymmetry, enhance decision-making, and support long-term organisational performance (Al-Matari, 2022). By combining agency and resource dependence perspectives, this study provides a more comprehensive framework for understanding how audit committee characteristics influence earnings management and financial performance, particularly within the Iraqi context, where governance challenges are pronounced.

Literature Review and Hypotheses Development

Audit Committee Expertise and Financial Performance

The Blue-Ribbon Committee (1999) defines audit committee expertise as prior professional experience in accounting or finance, relevant certifications, or comparable backgrounds that provide financial sophistication, including serving as a CEO or senior officer with oversight responsibilities (Almarayeh et al., 2022) In Iraq, the Corporate Governance Code stresses the importance of appointing members with competence in preparing and auditing financial statements. However, in practice, personal ties and connections often take precedence over

merit and qualifications, resulting in a limited proportion of directors with genuine expertise (Qader et al., 2023).

A wide body of research underscores the significance of accounting expertise, particularly in emerging markets (Al-Matari, 2022; Alodat et al., 2023; Altin, 2024; Hezabr et al., 2023; Sakhil, Bajur, et al., 2025). Experts enhance the credibility of financial reporting, facilitate the detection of irregularities and fraud, mitigate agency costs, and provide transparent information to investors (Galal et al., 2022). Similarly, Altin (2024) suggested that having members with accounting expertise on the audit committee can enhance a firm's financial performance. Hence, firms should take into account contextual elements such as the economic environment—that may influence how effectively corporate governance mechanisms function when establishing and applying these structures. The lack of experience among audit committee members is associated with lower company performance. Therefore, the presence of appropriate individuals with accounting expertise is crucial for enhancing financial performance and ensuring the committee's effectiveness (Rahman et al., 2023). Conversely, Mohammed et al. (2019) found that expertise has a negative effect on the performance of companies. Based on this evidence, the following hypothesis is proposed:

(H1): There is a positive relationship between audit committee accounting expertise and financial performance.

Audit Committee Gender Diversity and Financial Performance

Audit committee gender diversity refers to the proportion of women appointed to the audit committee. It is important to select females because their ethical conduct and attitudes differ from those of their male counterparts when performing their duties (Odubuasi et al., 2022). The gender diversity of the corporate board positively contributes to a firm's performance. Previous studies have provided conflicting results on the relationship between gender diversity on the audit committee and firm performance. Many researchers argue that the presence of women on audit committees has a positive impact on firm performance, as evidenced by studies such as those by Al-Absy et al. (2019), Meah et al. (2021), Maji & Saha (2021), Abbas & Frihatni (2023). Okeke (2023) confirmed that gender diversity has a positive impact on the financial performance of Nigerian companies.

Conversely, several studies have shown that the influence of gender diversity is often contingent upon additional factors, including the members' experience, the prevailing corporate culture, and the legal and regulatory framework within a given country. This implies that gender diversity, by itself, may not yield meaningful outcomes unless it is complemented by an organisational climate that actively promotes and supports women's participation in leadership and governance roles (ElHawary, 2021; Maji & Saha, 2021).

On the other hand, some researchers have found negative effects, such as Sakhil et al. (2025) and Umar et al. (2024). Based on the above, this study suggests that the gender of audit committee members plays a vital role in improving audit committee effectiveness and its impact on the financial performance of Iraqi companies. Considering resource dependence theory and previous evidence demonstrating a positive relationship, this study predicts a positive relationship and therefore proposes the following research hypothesis:

H2: There is a positive relationship between audit committee gender diversity and financial performance.

Audit Committee Expertise and Earnings Management

Accounting expertise equips audit committees with the technical ability to detect earnings manipulation and safeguard reporting integrity. Prior research shows that financially knowledgeable committees enhance earnings persistence and reporting predictability (Ali, 2024). Zadeh et al. (2023) similarly, document that firms with financially competent audit committees exhibit stronger monitoring and lower tendencies toward earnings manipulation. Recognising this, the U.S. Senate (2002) emphasised that audit committee effectiveness depends heavily on the knowledge and experience of its members in auditing and finance. Expertise ensures the timely identification and resolution of misstatements (Alodat et al., 2023; Sakhil et al., 2024).

Empirical evidence strongly supports this link. Nikulin et al. (2022) show that committees with accounting experts significantly reduce earnings management activities. Likewise, Ali (2024) and Altin (2024) provide further evidence that financial and accounting experience curtails the manipulation of earnings and enhances reporting credibility. In contrast to earlier findings, Almarayeh et al. (2022), in their investigation of the audit committee's role in constraining opportunistic earnings management practices in Jordan, reported that audit committee expertise had no statistically significant relationship with earnings management. In the same vein, Jameel et al. (2024) found that financial experience did not affect earnings management. Based on these findings, the following hypothesis is developed:

H3: There is a negative relationship between audit committee accounting expertise and earnings management.

Audit Committee Gender Diversity and Earnings Management

From the perspective of resource dependence theory, gender diversity provides audit committees with broader perspectives, while female directors contribute risk aversion and ethical sensitivity, leading to improved monitoring and reduced manipulation (Maji & Saha, 2021; Orazalin, 2020; Sakhil, Bajuri, et al., 2025). Empirical studies suggest that women strengthen ethical oversight and constrain earnings manipulation (Attia et al., 2024; Githaiga, 2024). Similarly, evidence indicates that the presence of women often enriches the depth and scope of audit committee discussions, particularly when addressing complex or contentious issues (Ali, 2024; Zalata et al., 2022). Agency theory further supports the notion that gender diversity enhances monitoring and lowers opportunistic behaviours (Umar et al., 2024).

Despite this, the literature remains inconclusive. Alves (2023) found that female participation reduced earnings management in Egypt, while Amara et al (2025) reported similar results in the UK. Conversely, Al-Absy et al. (2019) and Maji & Saha (2021) found no significant relationship. Considering resource dependency theory and previous evidence demonstrating a negative relationship, this study predicts a negative relationship between gender diversity and earnings management in Iraqi companies. Therefore, the following research hypothesis is proposed:

H4: There is a negative relationship between audit committee gender diversity and earnings management.

Earnings Management and Financial Performance

Earnings management is considered a practice with a dual effect. In the short term, a company may demonstrate better or more stable financial performance, which can temporarily please

investors (Dechow et al., 2012). Some previous studies have found that the use of earnings management does not harm future corporate performance, while other studies have indicated its negative effects. Boachie & Mensah (2022) detected that earnings management significantly and positively affects corporate performance in Sub-Saharan Africa. Alsulami (2024) confirmed that corporate performance improves as earnings management increases in Saudi Arabia. Conversely, Kumar et al. (2021) found that earnings management harms the future performance of Indian companies. This finding aligns with a study by Dakhllalh (2020), which shows a significant negative correlation between discretionary accruals and corporate performance in Jordan.

By discussing previous studies, it becomes clear that the results in emerging countries are inconsistent and inconclusive in determining the type of impact on corporate performance. Therefore, the current study hypothesises that earnings management affects financial performance in non-financial companies listed on the Iraqi market. Based on this, the following hypothesis is formulated.

H5: There is a statistically significant relationship between earnings management and financial performance.

The Mediating Effect of Earnings Management

Earnings management (EM) has increasingly been considered not only as an outcome variable but also as a mediating mechanism that links corporate governance structures to financial performance. Audit committees endowed with accounting expertise and gender diversity are expected to reduce opportunistic reporting behaviour, which subsequently enhances the credibility of financial statements and strengthens firm performance. In this sense, EM functions as a transmission channel through which the audit committee exercises influence on company performance.

Empirical studies, though still limited, provide support for this mediating role. For instance, Nikulin et al. (2022) and Lutfi et al. (2022) demonstrated that audit committee expertise constrains EM, which indirectly improves firm value by enhancing reporting quality. Similarly, Zadeh et al. (2023) and Altin (2024) provided evidence that real earnings management adversely affects long-term profitability, thereby implying that reducing EM fosters sustainable performance. These findings suggest that effective monitoring by diverse and expert audit committees curtails manipulation, which in turn has a positive impact on financial performance.

In the Iraqi context, where weak enforcement mechanisms, concentrated ownership, and minimal female participation in governance structures create fertile ground for opportunistic reporting, the mediating role of EM becomes particularly salient. By reducing earnings manipulation, audit committees with sufficient expertise and diversity can indirectly contribute to better financial outcomes. Accordingly, the following hypotheses are proposed:

H6a: Earnings management mediates the relationship between audit committee accounting expertise and financial performance.

H6b: Earnings management mediates the relationship between audit committee gender diversity and financial performance.

Figure 1 illustrates the theoretical framework of the study.

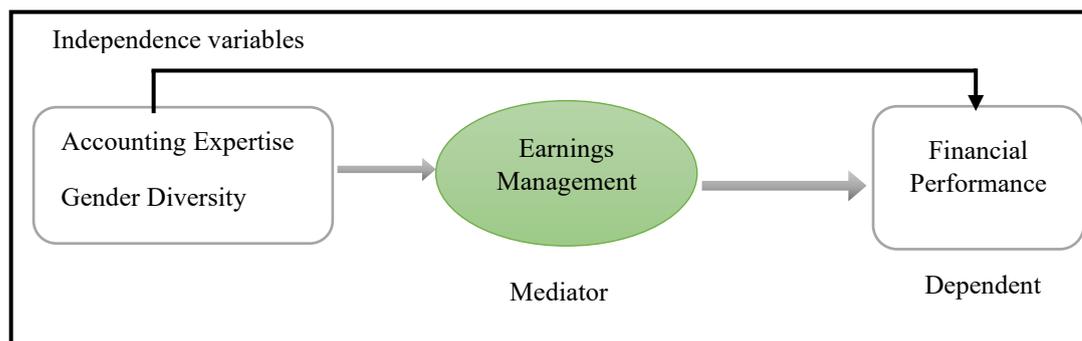


Figure 1. Theoretical Framework

Methodology

Research Design

This study employs a quantitative longitudinal design based on panel data to examine the impact of audit committee characteristics on financial performance, with earnings management as a mediating variable. The analysis covers a final sample of 35 non-financial firms listed on the Iraq Stock Exchange (ISX) over 13 years (2011–2023), which resulted in a total of 455 firm-year observations. Although the target population initially consisted of 87 non-financial companies, the number decreased due to missing governance and financial disclosures, resulting in a balanced and reliable sample. The choice of panel data enables capturing firm-specific heterogeneity, dynamic relationships over time, and addressing endogeneity concerns.

Data Collection

Data was obtained from companies' annual reports and official publications of the Iraq Stock Exchange. These reports provided detailed information on audit committee composition, financial statements, and other governance disclosures required for variable construction.

Variables and Measurement

The study includes independent, mediating, dependent, and control variables. Table 1 presents a summary of variable definitions and measurements. The control variables (firm size, sales growth, and leverage) were incorporated to account for potential confounding effects, as firm size reflects resource capacity, sales growth captures expansion trends, and leverage measures financial risk exposure.

Table 1

A summarised version of the study variables measurements

Variable	Measurement	References
ACEXP	1 if at least one audit committee member has accounting/finance expertise; 0 otherwise	(Al-Matari, 2022; Almarayeh et al., 2022)
ACGD	1 if at least one female audit committee member; 0 otherwise	(ElHawary, 2021; Zarefar & Narsa, 2023)
ROA	Net income / Total assets	(Ahmed & Hågen, 2023)
ROE	Net income / Total equity	(Ahmed & Hågen, 2023; Qeshta et al., 2021)
TQ	Market capitalisation / Total assets	(Al-ahdal & Hashim, 2022)
EM	Modified Jones Model (discretionary accruals)	(Ayyed, 2024; Dechow et al., 1995; Sakhil and Ali 2022)
FSIZE	Natural logarithm of total assets	(Al-Ahdal et al., 2023)
SG	The differences between current and previous year sales / Current year sales	(Faisal et al., 2023; Nipper, 2021)
LEV	Total liabilities / Total assets	(Alsayani et al., 2023)

Model Specification

The study employs two-step system Generalized Method of Moments (System-GMM) (Arellano & Bover, 1995; Blundell & Bond, 1998) to estimate the relationships. This method is chosen to address dynamic endogeneity, firm-level heterogeneity, and simultaneity bias. Compared to OLS and fixed effects estimators, System-GMM is more appropriate for dynamic models as it mitigates biases from unobserved heterogeneity and simultaneity. Additionally, robustness checks are conducted by estimating alternative models (Difference-GMM), testing multicollinearity using VIF, and examining residual properties.

The models are specified as follows:

1. Direct effect of audit committee characteristics on financial performance:

$$FP_{it} = \beta_0 + \beta_1 ACAEXP_{it} + \beta_2 ACGD_{it} + \beta_3 FSIZE_{it} + \beta_4 SG_{it} + \beta_5 LEV_{it} + \varepsilon_{it}$$

2. Direct effect of audit committee characteristics on earnings management:

$$EM_{it} = \beta_0 + \beta_1 ACAEXP_{it} + \beta_2 ACGD_{it} + \beta_3 FSIZE_{it} + \beta_4 SG_{it} + \beta_5 LEV_{it} + \varepsilon_{it}$$

3. Direct effect of earnings management on financial performance:

$$FP_{it} = \beta_0 + \beta_1 EM_{it} + \beta_3 FSIZE_{it} + \beta_4 SG_{it} + \beta_5 LEV_{it} + \varepsilon_{it}$$

4. Mediating role of earnings management:

$$FP_{it} = \beta_0 + \beta_1 ACAEXP_{it} + \beta_2 ACGD_{it} + \beta_3 EM_{it} + \beta_4 FSIZE_{it} + \beta_5 SG_{it} + \beta_6 LEV_{it} + \varepsilon_{it}$$

Earnings Management Model (Modified Jones Model)

To measure earnings management, this study applies the Modified Jones Model (Dechow et al., 1995), which adjusts for changes in revenues and receivables as well as property, plant, and equipment. The model is specified as follows:

$$\frac{TAt}{At-1} = a_1 \left(\frac{1}{At-1} \right) + a_2 \left[\frac{(\Delta REV_t - \Delta RECT)}{At-1} \right] + a_3 \left(\frac{PPE_t}{At-1} \right) + \varepsilon_{it}$$

Where:

- TA_{it}: Total accruals of firm i in year t.
- A_{it-1}: Total assets of firm i in year t-1.

- ΔREV_{it} : Change in revenues.
- ΔREC_{it} : Change in receivables.
- PPE_{it} : Property, plant, and equipment.
- ε_{it} : Error term.

The residuals from this regression represent discretionary accruals (DA), which are used as a proxy for earnings management.

Estimation Diagnostics

Sargan/Hansen Test: To verify the validity of the instruments. Arellano–Bond AR (2) Test: To confirm the absence of second-order serial correlation. Additional diagnostic checks, such as the variance inflation factor (VIF), are applied to ensure the absence of multicollinearity. The combination of these procedures ensures the robustness and reliability of the System-GMM estimation results.

Data Analysis and Results

Descriptive Statistics

The descriptive statistics in Table 4.1 reveal substantial variation across the study variables. Firm performance indicators show an overall weak profitability level, as the mean ROA (–0.030) and ROE (0.050) suggest that several firms recorded losses, while Tobin’s Q (mean = 3.514) indicates considerable market valuation disparities. Regarding audit committee characteristics, the proportion of members with accounting expertise is notably low (mean = 0.048), whereas gender diversity averages 39.9%, reflecting heterogeneous representation across firms. Earnings management demonstrates a moderate presence (mean = 0.119), with some firms engaging heavily in manipulative practices. Control variables display significant heterogeneity: firm size is relatively consistent (mean = 22.348), sales growth varies widely (–1.000 to 60.971), and leverage (mean = 0.543) ranges from negligible debt to very high reliance on external financing. Collectively, these findings highlight pronounced structural and governance-related differences among listed non-financial companies on the Iraqi Stock Exchange.

Table 4.1

Research Descriptive

Variable	Mean	Std. Dev	Minimum	Maximum
ROA	-0.030	0.335	-4.339	0.338
ROE	0.050	0.598	-4.091	2.786
TQ	3.514	5.403	0.000	33.658
ACAEXP	0.048	0.215	0.000	1.000
ACGD	0.399	0.490	0.000	1.000
EM	0.119	0.155	0.000	1.428
SIZE	22.348	1.373	18.996	27.049
SG	1.137	7.132	-1.000	60.971
LEV	0.543	1.125	0.004	8.697

Correlation Analysis

Table 4.2 reports the pairwise correlation coefficients among the study variables. The results show that firm performance indicators exhibit mixed associations. Specifically, ROA is positively correlated with ROE ($r = 0.196$, $p < 0.05$), confirming consistency between the two profitability measures. However, ROA demonstrates a significant negative correlation with Tobin's Q ($r = -0.162$, $p < 0.05$), suggesting that higher market valuation is not necessarily aligned with accounting-based performance. Importantly, leverage (LEV) shows a strong and significant negative association with ROA ($r = -0.55$, $p < 0.05$), indicating that firms with higher debt ratios tend to experience lower asset profitability.

With respect to audit committee characteristics, gender diversity (ACGD) and accounting expertise (ACAEXP) display no statistically significant correlations with firm performance measures or earnings management. For example, ACGD is negatively correlated with ROA ($r = -0.131$) and ROE ($r = -0.141$), while ACAEXP is weakly and positively correlated with ROE ($r = 0.074$), though none are significant at the 5% level. These results suggest that the potential effects of audit committee attributes may not be adequately captured through simple bivariate associations, highlighting the importance of multivariate modelling.

Earnings management (EM) shows a weak and statistically insignificant negative association with ROA ($r = -0.068$), consistent with the notion that opportunistic earnings manipulation may undermine accounting-based performance. However, its lack of statistical significance in the correlation matrix further justifies the need to assess its mediating role within the system GMM framework, rather than relying solely on pairwise relationships.

Table 4.2

Pairwise Correlation (Simplified - User Format)

	ROA	ROE	TQ	ACGD	ACAEXP	EM	SIZE	SG	LEV
ROA	1								
ROE	0.196*	1							
TQ	-0.162*	0.113	1						
ACGD	-0.131	-0.141	0.032	1					
ACAEXP	0.018	0.074	0.017	-0.074	1				
EM	-0.068	0.010	0.053	0.063	-0.031	1			
SIZE	0.152	0.028	-0.231	-0.152	0.069	-0.040	1		
SG	0.009	-0.007	0.005	0.009	-0.028	0.018	-0.024	1	
LEV	-0.55*	0.061	0.155	0.019	0.009	0.072	-0.117	-0.050	1

* Correlation is significant at the 0.05 level.

Stationarity and Cointegration Test

The econometric analysis of this study employs the dynamic Generalised Method of Moments (GMM) estimator, which is widely regarded as more appropriate than static models such as pooled OLS or fixed effects when the underlying economic process exhibits dynamic behaviour (Al Farooque et al., 2020; Kumar et al., 2021; Majumder et al., 2024). The choice of GMM is motivated by its ability to control for unobserved firm-specific heterogeneity, mitigate potential endogeneity problems, and account for the persistence of the dependent variable.

The dataset used in this study is a balanced panel comprising 35 non-financial firms observed over a period of 13 years (2011–2023). The combination of a moderate time dimension (T) and cross-sectional dimension (N) makes it well-suited for the application of the dynamic system GMM estimator.

To assess the validity of the estimation results, two widely accepted diagnostic tests were performed. First, the Arellano–Bond test for autocorrelation was applied to test the null hypothesis of no second-order serial correlation in the differenced residuals. While the presence of first-order correlation is expected, the absence of second-order correlation is a necessary condition for estimator validity. Second, the Hansen J-test of over-identifying restrictions was employed to examine the overall validity of the instrument set under the null hypothesis that the instruments are exogenous.

The results of these diagnostic checks confirm the robustness of the estimation procedure. The Arellano–Bond test fails to reject the null hypothesis, indicating the absence of second-order serial correlation in the residuals. Likewise, the Hansen J-test does not reject the null hypothesis, suggesting that the instruments are valid and exogenous. Taken together, these findings provide strong support for the reliability of the dynamic system GMM specification adopted in this study.

Empirical Results

The results in Table 4.3 indicate that audit committee accounting expertise (ACAEXP) has a positive and statistically significant effect on ROA ($\beta = 0.091$, $p < 0.01$), confirming that financial expertise within the audit committee improves firms' ability to generate returns from their assets. Conversely, gender diversity (ACGD) exhibits a negative and significant effect on ROA ($\beta = -0.144$, $p < 0.01$), suggesting that, in the Iraqi context, higher female representation in audit committees is associated with lower accounting-based performance. Control variables show expected signs, with firm size positively influencing ROA, while leverage is negatively and strongly associated with profitability.

Table 4.3
(GMM Model for ROA) Based on Hypotheses H1-H2

Variable	Coefficient	Std. Error	z. Statistic	Prob
L1.ROA	0.005	0.005	1.150	0.250
ACAEXP	0.091	0.020	4.490	0.000
ACGD	-0.144	0.030	-4.740	0.000
SIZE	0.154	0.028	5.410	0.000
SG	0.001	0.001	1.240	0.215
LEV	-0.230	0.009	-25.760	0.000
_cons	-2.723	0.756	-3.600	0.000
Sargan test	0.5058	AR (2)	0.159	
Wald Chi2	14773.05	Prob	0.000	

As shown in Table 4.4, ACAEXP is positively and significantly related to ROE ($\beta = 0.056$, $p < 0.05$), supporting the notion that audit committees with members possessing accounting expertise are more effective in enhancing shareholder returns. On the other hand, ACGD displays a negative and highly significant relationship with ROE ($\beta = -0.197$, $p < 0.01$), suggesting that gender diversity in audit committees may not yield positive effects on equity-

based performance in Iraqi firms. Firm size again shows a strong positive effect, while leverage is positively related to ROE, reflecting that debt financing may have been used effectively to enhance equity returns in some cases.

Table 4.4
(GMM Model for ROE) Based on Hypotheses H1-H2

Variable	Coefficient	Std. Error	z. Statistic	Prob
L1.ROE	-0.223	0.006	-38.280	0.000
ACAEXP	0.056	0.028	1.980	0.047
ACGD	-0.197	0.020	-10.070	0.000
SIZE	0.243	0.032	7.620	0.000
SG	-0.001	0.000	-3.020	0.003
LEV	0.133	0.013	10.280	0.000
_cons	-3.789	0.725	-5.220	0.000
Sargan test	0.308	AR (2)	0.302	
Wald Chi2	144912.34	Prob	0.000	

The findings in Table 4.5 reveal that ACAEXP has a negative and statistically significant relationship with Tobin's Q ($\beta = -1.532$, $p < 0.01$), an unexpected result that suggests market-based valuations do not align with the improvements in accounting expertise observed in ROA and ROE. Gender diversity (ACGD), however, shows no significant association with Tobin's Q ($\beta = 0.234$, $p = 0.203$). This indicates that the market does not perceive audit committee gender diversity as a value-relevant factor in the Iraqi context. Among the control variables, firm size is negatively related to Tobin's Q, while leverage is positively associated, highlighting the mixed nature of structural and financial influences on market valuations.

Table 4.5
(GMM Model for Tobin's Q (TQ) Based on Hypotheses H1-H2)

Variable	Coefficient	Std. Error	z. Statistic	Prob
L1. TQ	0.458	0.047	9.700	0.000
ACAEXP	-1.532	0.233	-6.580	0.000
ACGD	0.234	0.184	1.270	0.203
SIZE	-4.753	0.327	-14.520	0.000
SG	-0.037	0.005	-7.510	0.000
LEV	0.809	0.110	7.380	0.000
_cons	121.152	8.866	13.660	0.000
Sargan test	0.4974	AR (2)	0.8283	
Wald Chi2	8.91e+06	Prob	0.000	

Table 4.6 presents the results of the GMM estimation model for earnings management (EM) based on hypotheses H3 and H4. The findings reveal that audit committee accounting expertise (ACAEXP) has a negative but statistically insignificant impact on EM ($\beta = -0.009$, $p > 0.05$), suggesting that the presence of members with accounting expertise in audit committees does not play a meaningful role in constraining opportunistic earnings practices within Iraqi non-financial listed firms. In contrast, audit committee gender diversity (ACGD) shows a negative and statistically significant association with EM ($\beta = -0.029$, $p < 0.01$),

indicating that greater female representation on audit committees is associated with reduced levels of earnings manipulation.

These results imply that gender diversity enhances the monitoring effectiveness of audit committees, thereby improving the credibility of financial reporting, while accounting expertise alone does not appear sufficient to deter earnings management in this context. With respect to the control variables, firm size (SIZE), sales growth (SG), and leverage (LEV) all demonstrate significant negative effects on EM, implying that larger firms, firms experiencing higher sales growth, and those with greater reliance on debt tend to engage less in earnings manipulation. The validity of the model is further supported by the Sargan test ($p = 0.5055$), which confirms instrument validity, and the AR (2) test ($p = 0.471$), which confirms the absence of second-order autocorrelation.

Table 4.6

GMM Model for EM Based on Hypotheses H3-H4

Variable	Coefficient	Std. Error	z. Statistic	Prob
L1.EM	0.146	0.031	4.670	0.000
ACAEXP	-0.009	0.010	-0.910	0.362
ACGD	-0.029	0.011	-2.610	0.009
SIZE	-0.039	0.010	-3.890	0.000
SG	-0.001	0.000	-3.250	0.001
LEV	-0.013	0.005	-2.610	0.009
_cons	1.155	0.272	4.250	0.000
Sargan test	0.5055	AR (2)	0.471	
Wald Chi2	1725.94	Prob	0.000	

The results in Table 4.7 show that earnings management (EM) has a negative and statistically significant effect on ROA ($\beta = -0.047$, $p < 0.01$), indicating that higher levels of earnings manipulation reduce firms' ability to generate returns from their assets. Among the control variables, firm size ($\beta = 0.020$, $p < 0.05$) positively affects ROA, while sales growth (SG) ($\beta = -0.001$, $p < 0.01$) and leverage (LEV) ($\beta = -0.332$, $p < 0.01$) both exert negative effects. Diagnostic tests support the model's validity, as the Sargan test ($p = 0.229$) confirms instrument validity, and the AR (2) test ($p = 0.218$) indicates the absence of second-order autocorrelation.

Table 4.7

GMM Model for ROA Based on Hypotheses H5

Variable	Coefficient	Std. Error	z. Statistic	Prob
L1. ROA	0.090	0.001	80.610	0.000
EM	-0.047	0.016	-2.880	0.004
SIZE	0.020	0.009	2.210	0.027
SG	-0.001	0.000	-8.820	0.000
LEV	-0.332	0.004	-91.070	0.000
_cons	-0.281	0.201	-1.400	0.163
Sargan test	0.229	AR (2)	0.218	
Wald Chi2	122576.5	Prob	0.000	

The results in Table 4.8 indicate that earnings management (EM) has a positive and statistically significant effect on ROE ($\beta = 0.239$, $p < 0.01$). This suggests that firms engaging in earnings manipulation can temporarily enhance shareholder returns, reflecting inflated accounting performance that may not be sustainable in the long run. Regarding the control variables, firm size (SIZE) shows a negative and significant relationship with ROE ($\beta = -0.043$, $p < 0.01$), implying that larger firms generate relatively lower equity returns compared to smaller firms. Leverage (LEV), on the other hand, is positively and significantly associated with ROE ($\beta = 0.298$, $p < 0.01$), indicating that debt financing may improve short-term equity returns in Iraqi firms. Sales growth (SG) exhibits a negative but statistically insignificant effect ($\beta = -0.001$, $p > 0.10$). The diagnostic tests confirm the robustness of the model: the Sargan test ($p = 0.127$) validates the instruments, and the AR (2) test ($p = 0.444$) confirms the absence of second-order autocorrelation.

Table 4.8

GMM Model for ROE Based on Hypotheses H5

Variable	Coefficient	Std. Error	z. Statistic	Prob
L1. ROE	-0.179	0.003	-61.140	0.000
EM	0.239	0.032	7.480	0.000
SIZE	-0.043	0.016	-2.730	0.006
SG	-0.001	0.000	-1.760	0.078
LEV	0.027	0.006	4.320	0.000
_cons	1.003	0.358	2.800	0.005
Sargan test	0.473	AR (2)	0.347	
Wald Chi2	34978.68	Prob	0.000	

The results in Table 4.9 reveal that earnings management (EM) has a negative and statistically significant impact on Tobin's Q ($\beta = -1.030$, $p < 0.01$). This indicates that higher levels of earnings manipulation are penalised by the market, as firms engaging in such practices experience lower market valuations relative to their book value. Regarding the control variables, firm size ($\beta = -4.274$, $p < 0.01$) and sales growth (SG) ($\beta = -0.055$, $p < 0.01$) both exhibit strong negative effects on Tobin's Q, while leverage (LEV) ($\beta = 1.007$, $p < 0.01$) shows a positive and significant relationship. These findings suggest that, although larger and growing firms may struggle with sustaining high market valuations, reliance on debt financing is associated with enhanced investor perception in the Iraqi context. The robustness of the model is supported by the Sargan test ($p = 0.310$), which validates the instruments, and the AR (2) test ($p = 0.643$), which confirms the absence of second-order autocorrelation.

Table 4.9

GMM Model for TQ Based on Hypotheses H5

Variable	Coefficient	Std. Error	z. Statistic	Prob
L1. ROE	0.486	0.013	37.460	0.000
EM	-1.030	0.218	-4.720	0.000
SIZE	-4.274	0.166	-25.680	0.000
SG	-0.055	0.009	-6.420	0.000
LEV	1.007	0.094	10.730	0.000
_cons	97.274	3.862	25.190	0.000
Sargan test	0.310	AR (2)	0.643	
Wald Chi2	11201.38	Prob	0.000	

The results in Table 4.10 show that audit committee accounting expertise (ACAEXP) positively and significantly influences ROA ($\beta = 0.093$, $p < 0.01$), suggesting that financial expertise among audit committee members enhances firms' ability to generate returns on assets. In contrast, gender diversity (ACGD) has a negative and significant effect on ROA ($\beta = -0.152$, $p < 0.01$), indicating that higher female representation in audit committees is associated with lower asset profitability in the Iraqi context. Earnings management (EM) also demonstrates a negative and significant effect on ROA ($\beta = -0.209$, $p < 0.01$), confirming its mediating role. This implies that while ACAEXP enhances performance directly, its effect may be weakened by earnings manipulation, whereas ACGD's adverse impact is further exacerbated through its negative association with EM. Diagnostic tests confirm model validity (Sargan test, $p = 0.432$; AR (2), $p = 0.136$).

Table 4.10

(GMM Model for ROA) Based on Hypotheses H6a-H6b

Variable	Coefficient	Std. Error	z. Statistic	Prob
L1.ROA	0.003	0.005	0.490	0.626
acaexp	0.093	0.017	5.340	0.000
Acgd	-0.152	0.030	-5.030	0.000
EM	-0.209	0.031	-6.760	0.000
SIZE	0.155	0.029	5.370	0.000
SG	0.001	0.001	0.970	0.332
LEV	-0.225	0.010	-22.490	0.000
_cons	-2.338	0.736	-3.180	0.001
Sargan test	0.432	AR (2)	0.136	
Wald Chi2	15288.23	Prob	0.000	

Table 4.11 indicates that ACAEXP has a positive but statistically insignificant effect on ROE ($\beta = 0.044$, $p = 0.117$), suggesting that accounting expertise does not meaningfully enhance shareholder returns when measured by equity performance. ACGD, however, shows a strong and negative relationship with ROE ($\beta = -0.204$, $p < 0.01$), reflecting reduced equity returns in firms with greater female representation on audit committees. Interestingly, EM exhibits a negative but insignificant impact on ROE ($\beta = -0.036$, $p = 0.420$), which implies that earnings manipulation does not mediate the relationship between audit committee characteristics and equity-based performance. Control variables behave as expected: firm size positively affects

ROE, leverage is positively significant, and sales growth shows a negative and significant association. Diagnostic tests confirm instrument validity (Sargan test, $p = 0.207$) and the absence of second-order autocorrelation (AR (2), $p = 0.299$).

Table 4.11

(GMM Model for ROE) Based on Hypotheses H6a-H6b

Variable	Coefficient	Std. Error	z. Statistic	Prob
L1.ROE	-0.222	0.011	-19.390	0.000
ACAEXP	0.044	0.028	1.570	0.117
ACGD	-0.204	0.027	-7.610	0.000
EM	-0.036	0.044	-0.810	0.420
SIZE	0.246	0.036	6.910	0.000
SG	-0.001	0.000	-4.980	0.000
LEV	0.134	0.017	8.110	0.000
_cons	-3.481	0.704	-4.950	0.000
Sargan test	0.207	AR (2)	0.299	
Wald Chi2	2.96e+06	Prob	0.000	

As shown in Table 4.12, ACAEXP has a negative and significant relationship with Tobin's Q ($\beta = -1.280$, $p < 0.01$), an unexpected result suggesting that the market does not value accounting expertise positively in Iraqi firms. Gender diversity (ACGD), on the other hand, shows no significant impact on Tobin's Q ($\beta = 0.282$, $p = 0.143$), indicating that female representation in audit committees is not perceived as value-relevant by investors. Importantly, EM exerts a negative and significant effect on Tobin's Q ($\beta = -1.130$, $p < 0.01$), which supports its mediating role by reducing market-based valuations when earnings manipulation is present. Control variables confirm mixed structural effects: firm size and sales growth are both negatively associated with Tobin's Q, while leverage is positively significant. Diagnostic checks validate the robustness of the model (Sargan test, $p = 0.325$; AR (2), $p = 0.789$).

Table 4.12

(GMM Model for TQ) Based on Hypotheses H6a-H6b

Variable	Coefficient	Std. Error	z. Statistic	Prob
L1. TQ	0.471	0.038	12.420	0.000
ACAEXP	-1.280	0.368	-3.480	0.001
ACGD	0.282	0.193	1.460	0.143
EM	-1.130	0.348	-3.250	0.001
SIZE	-4.768	0.308	-15.480	0.000
SG	-0.035	0.008	-4.480	0.000
LEV	0.788	0.107	7.330	0.000
_cons	126.783	6.609	19.180	0.000
Sargan test	0.3253	AR (2)	0.789	
Wald Chi2	350352.75	Prob	0.000	

Discussion of Results

The results indicate that audit committee accounting expertise enhances accounting-based performance measures (ROA and ROE), which supports Hypothesis 1 (H1) positing a positive relationship between expertise and firm performance. This finding is consistent with prior evidence (Al-Matari, 2022; Alodat et al., 2023; Hezabr et al., 2023). However, the effect on market-based performance (Tobin's Q) was negative, suggesting that the hypothesis is only partially supported in this dimension. This result is consistent with a study conducted by Ahmed in Iraq in 2019. Concerning gender diversity, the results reveal negative effects on firm performance and therefore do not support Hypothesis 2 (H2), in line with Sakhil et al. (2025) and Umar et al. (2024), but in contrast with studies such as Meah et al. (2021), Maji & Saha (2021), Abbas & Frihatni (2023) and Okeke (2023) that highlight its positive role.

Concerning earnings management, the analysis shows that both accounting expertise and gender diversity are negatively associated with earnings management, indicating that they help constrain opportunistic practices. This evidence supports Hypotheses 3 (H3) and 4 (H4) and is consistent with Nikulin et al. (2022), Ali (2024), Altin (2024), Attia et al. (2024), and Githaiga (2024). Moreover, earnings management is found to be negatively related to long-term performance (ROA and Tobin's Q), while showing a temporary positive impact on ROE. Thus, Hypothesis 5 (H5) is supported, echoing the findings of Kumar et al. (2021) and Dakhllalh (2020). Finally, the results confirm that earnings management partially mediates the relationship between audit committee characteristics (accounting expertise and gender diversity) and financial performance, particularly in ROA and Tobin's Q, thereby supporting Hypotheses 6a (H6a) and 6b (H6b). This underscores the importance of reducing earnings manipulation as a key channel through which audit committee characteristics enhance sustainable performance.

Conclusion

This study provides comprehensive evidence on the role of audit committee characteristics in shaping financial performance through the mediation of earnings management. The results show that accounting expertise enhances accounting-based measures of performance (ROA and ROE), although its impact on market valuation (Tobin's Q) is negative, suggesting limited recognition by investors in the Iraqi context. Gender diversity is found to reduce earnings management, thereby improving the integrity of financial reporting, but its direct association with financial performance remains negative. Furthermore, earnings management demonstrates a dual effect: while it may temporarily inflate shareholder returns (ROE), it reduces asset profitability (ROA) and market valuation (Tobin's Q), confirming its detrimental long-term consequences. Importantly, the mediation analysis indicates that earnings management partially mediates the relationship between audit committee attributes and financial performance, particularly in accounting-based and market-based measures, but not in equity-based returns.

Overall, these findings contribute to the literature by offering new insights from an emerging market, highlighting the importance of strengthening audit committee structures to curb earnings manipulation and enhance sustainable performance. For policymakers and regulators, the results underscore the need to enforce governance reforms that ensure effective expertise and balanced representation within audit committees, thereby safeguarding stakeholders and promoting transparency in the Iraqi corporate sector.

Limitations and Recommendations

Despite the valuable insights this study provides regarding the impact of audit committee characteristics on earnings management and financial performance in Iraqi firms, several limitations should be acknowledged. The sample was restricted to 35 non-financial companies listed on the Iraq Stock Exchange for the period 2011–2023, which may limit the generalizability of the findings to financial institutions or unlisted firms. In addition, the study relied on traditional financial performance measures (ROA, ROE, and Tobin's Q) without incorporating non-financial indicators such as sustainability or corporate social responsibility. The analysis also focused on two key audit committee attributes, accounting expertise and gender diversity, while overlooking other potentially relevant characteristics such as committee size, meeting frequency, busyness, age, education, and independence. Furthermore, the institutional context of Iraq, characterised by relatively weak market infrastructure and enforcement mechanisms, makes the findings more specific to the local environment and less generalizable to other emerging markets. Based on these limitations, future research is encouraged to expand the sample across different sectors and firm types, adopt both financial and non-financial performance measures for more comprehensive evaluation, and explore additional audit committee characteristics that may influence effectiveness. Comparative studies across emerging markets are also recommended to capture similarities and differences in governance dynamics. Finally, employing qualitative approaches such as interviews or field studies alongside quantitative methods could provide deeper insights into the mechanisms through which audit committees operate in diverse institutional contexts.

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