Internal Audit as a Governance Mechanism for Corruption Prevention in Iraq's Public Sector: Quantitative Evidence from Institutional Practice

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ABSTRACT

Purpose: This study aims to examine the role of the internal audit function in preventing corruption within the Iraqi public sector, focusing specifically on three core attributes: independence, competence, and effectiveness.

Design/methodology/approach: Operating as a pioneering baseline investigation in a fragile institutional setting, the study adopted a quantitative cross-sectional design. A structured questionnaire was administered to internal auditors across seven ministries in the Salahuddin region of Iraq, yielding 102 usable responses. Data were analysed using descriptive statistics, Pearson correlation, and multiple linear regression.

Findings: The findings reveal that internal auditor independence and competence exert a positive, statistically significant influence on corruption prevention. Conversely, internal audit effectiveness demonstrated a negative but significant relationship, suggesting that perceived effectiveness in fragile environments is heavily affected by management interference and reporting constraints.

Originality/value: These findings extend agency-theoretic explanations of public-sector auditing to under-researched, conflict-affected contexts. The study establishes a critical empirical foundation for the region, offering practical guidance for policymakers and international donors seeking to strengthen baseline integrity systems.

Keywords: agency theory, competence, corruption prevention, effectiveness, fragile states, independence, internal audit function, Iraq, public sector

Paper type: Research paper

INTRODUCTION

Corruption persists as one of the most damaging governance challenges of the twenty-first century. Recent estimates by the World Economic Forum and the International Monetary Fund indicate that corruption diverts more than five per cent of global GDP each year, raises the cost of doing business by up to ten per cent and disproportionately burdens citizens in developing and fragile economies (Alazzabi et al., 2023; OECD, 2024). The Corruption Perceptions Index 2024, published by Transparency International (2025), shows that the global average score remains stagnant at 43 out of 100, with two-thirds of countries scoring below 50, highlighting the limited progress that has been made despite two decades of anti-corruption reform.

Iraq remains among the countries most severely affected by entrenched corruption. Although Transparency International (2025) reports that Iraq improved its standing from a rank of 154 in 2023 to 140 out of 180 countries in 2024, with a score of 26 out of 100, the country is still listed among the eight most corrupt economies in the Arab world. This modest improvement, while notable, reflects the persistent fragility of public-sector integrity systems following the 2003 regime change, the rise and defeat of the Islamic State, and the continuing dependence of the federal budget on oil revenues that account for more than 85 per cent of government income (Hoang, 2024; Wikipedia: Corruption in Iraq, 2025). The 2021 statement by former President Barham Salih that approximately USD 150 billion in oil revenues had been smuggled out of Iraq since 2003 underlines the magnitude of the integrity gap and the urgent need for stronger preventive controls.

In this challenging environment, the internal audit function (IAF) is widely identified as a critical second- and third-line defence against the misuse of public resources (OECD, 2024; World Bank Centre for Financial Reporting Reform, 2024). The Institute of Internal Auditors (IIA, 2024) has recently issued the Global Internal Audit Standards, effective January 2025, which restate independence, competence and effectiveness as foundational requirements for value-added internal audits. Empirical research from Indonesia, Vietnam, Pakistan, Ghana and the Gulf states has consistently demonstrated that internal auditor attributes influence the capacity of audit functions to prevent and detect corruption (Bonrath & Eulerich, 2024; Khan et al., 2020; Nadirsyah et al., 2024; Nguyen et al., 2022; Singh et al., 2021). However, the evidence base from fragile and conflict-affected economies, and from Iraq in particular, remains thin and largely descriptive.

This study addresses that gap by serving as a pioneering, baseline investigation into how three core attributes of the internal audit function – independence, competence, and effectiveness – influence corruption prevention in the Iraqi public sector. By focusing on the historically under-researched Salahuddin region, this exploratory research provides rare, ground-level empirical evidence from a fragile institutional setting, establishing a foundational empirical benchmark for future advanced econometric studies. The study draws on a sample of 102 internal auditors across seven ministries in the Salahuddin region of Iraq and applies multiple regression analysis to test three hypotheses derived from agency theory.

The remainder of the paper is organised, as follows: Section 2 reviews the literature and develops the hypotheses. Section 3 explains the research methodology. Section 4 presents the empirical results. Section 5 discusses the findings compared to the recent literature, and Section 6 concludes with implications, limitations, and a forward-looking research agenda.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Agency Theory

Agency theory remains the predominant theoretical lens for explaining the existence and design of audit arrangements in both private and public organisations (Colbert & Jahera, 2011; Jensen & Meckling, 1976; Mensah et al., 2020). The theory examines the relationship between a principal who delegates authority and an agent who acts on the principal's behalf and identifies three structural problems: information asymmetry, divergent interests and risk preferences. In the public-sector context, citizens (the ultimate principals) delegate authority to elected officials, who in turn delegate operational responsibility to civil servants. This multi-tier agency relationship creates layered opportunities for the misappropriation of public resources unless effective monitoring mechanisms are in place (Nadirsyah et al., 2024; Singh et al., 2021).

Internal auditing functions as one of the principal monitoring devices that mitigate agency conflicts in this delegation chain. Drawing on Adams' (1994) seminal application of agency theory to internal auditing, more recent contributions have argued that the internal audit function reduces information asymmetry by assuring senior management, audit committees and external stakeholders about the integrity of internal controls and the accuracy of financial information (Bonrath & Eulerich, 2024; Hoang, 2024). Within this framework, the three audit attributes examined in the present study (independence, competence and effectiveness) represent the necessary conditions under which the audit function can credibly perform its monitoring role. Independence safeguards objectivity, competence ensures the technical capacity to detect anomalies, and effectiveness captures the practical outcomes of audit activity in mitigating risk and improving governance (Mensah et al., 2020; Singh et al., 2021).

The OECD (2024) reaffirms this triadic structure within its Public Integrity Indicators framework, which evaluates whether member and partner countries embed internal control, internal audits, and risk management as integrated lines of defence against fraud and corruption. The Institute of Internal Auditors' Global Internal Audit Standards (IIA, 2024), effective January 2025, similarly organise their fifteen guiding principles around the related domains of purpose, ethics, governance, capability, performing services, and effective leadership, all of which presuppose the operation of independent, competent, and effective audit teams.

Corruption in the Iraqi Public Sector

Corruption in Iraq has been described as endemic and systemic, and it is the principal threat to political stability following the defeat of the Islamic State (Dodge, 2019; Wikipedia: Corruption in Iraq, 2025). Although the 2024 Corruption Perceptions Index records a three-point improvement in Iraq's score from 23 in 2023 to 26 in 2024, the country still ranks 140th of 180 nations and remains among the most corrupt economies in the Middle East (Transparency International, 2025). Anti-corruption observers attribute the structural persistence of corruption to four interlocking factors: the dominance of oil revenue in public finance; the political economy of muhasasa power sharing that incentivises rent-seeking by political parties; the weakness of integrity institutions such as the Commission of Integrity and the Federal Board of Supreme Audit; and the limited protection afforded to whistleblowers and investigative journalists (Hoang, 2024; UNODC, 2013).

Recent high-profile cases illustrate both the scale of the challenge and the contested progress of reform. In late 2022, the so-called "theft of the century" revealed the embezzlement of approximately USD 2.5 billion from the General Commission for Taxes through fraudulent withdrawals against the Tax Authority's Rafidain Bank account. Although the government of Prime Minister Al-Sudani recovered approximately USD 125 million by November 2022 and announced the creation of a Supreme Anti-Corruption Commission, auditors and integrity observers have criticised the slow pace of full recovery and the limited number of senior officials brought to justice (Wikipedia, Corruption in Iraq, 2025). In November 2024, a further integrity inquiry was launched following the leak of an audio recording allegedly implicating a senior prime-ministerial aide. These episodes underscore the continuing exposure of Iraq's public-finance system to high-value fraud and the urgency of strengthening preventive control mechanisms.

The Federal Board of Supreme Audit of Iraq (FBSA) carries the primary mandate for auditing public funds and contracts. Established in 1927 as an independent professional institution and most recently reformed under Federal Law 31 of 2011, the FBSA is constitutionally accountable to Parliament and is responsible for auditing every federal ministry, state-owned enterprise and public-private partnership. However, several authors have observed that the FBSA suffers from limited enforcement powers, political pressure on its leadership and an absence of binding mechanisms to compel ministries to implement audit recommendations (Salih & Hla, 2015; Salih & Almajdob, 2019). Internal audit units within ministries often face understaffing, lack independent reporting lines, and operate without clear safeguards against retaliation. The OECD (2024) Public Governance Policy Paper on co-operation between internal and external auditors highlights precisely these structural weaknesses as the principal threats to integrity assurance in transition economies and identifies them as the most consequential constraints on the marginal contribution of audit reform to corruption reduction.

The Internal Audit Function and Corruption Prevention

The contemporary literature converges on a broad definition of the internal audit function as an independent, objective assurance and consulting activity designed to add value and improve an organization's operations through a systematic, disciplined approach to risk management, control, and governance (IIA, 2024). Modern internal auditing has shifted decisively towards risk-based, forward-looking assurance that emphasises prevention and continuous improvement, in contrast to the traditional focus on financial compliance and ex post detection (Bonrath & Eulerich, 2024; OECD, 2024).

Empirical evidence accumulated since 2020 supports the proposition that the internal audit function plays a meaningful role in preventing fraud and corruption when its core attributes are present. Bonrath and Eulerich (2024), in a multi-country empirical analysis published in the International Journal of Auditing, observe that internal auditors who report directly to the audit committee evaluate fraud risk more rigorously and adopt more proactive procedures. Nadirsyah et al. (2024), in a Cogent Business and Management study of 117 internal supervisors in the Indonesian local-government sector, demonstrate that internal audit, internal control and fraud-prevention activities collectively improve governance through structural-equation pathways. Khan et al. (2020) and Singh et al. (2021) similarly report that internal-auditor attributes are positively associated with the prevention, detection and assessment of fraud in Pakistani and Malaysian organisations.

Hypothesis Development

Independence of Internal Audit and Corruption Prevention

Independence is regarded as the cornerstone of audit credibility (IIA, 2024). The literature distinguishes between organisational independence, which depends on reporting lines and the locus of appointment authority, and individual objectivity, which reflects the auditor's mental attitude and freedom from conflicts of interest (Pakaya et al., 2024; Yuningsi, 2025). When internal auditors are subordinated to operational management, their willingness to report sensitive findings is significantly diminished (Bonrath & Eulerich, 2024). In Iraq, the appointment of senior auditors has historically been driven by political affiliation, weakening organisational independence and undermining the staff's willingness to flag corrupt practices for fear of retaliation (Khalid Salih & Tin Hla, 2016; UNODC, 2013).

Recent empirical research consistently associates auditor independence with improved fraud-prevention outcomes. Yuningsi (2025) demonstrates in a study of internal auditors at the Buol Regency Inspectorate in Indonesia that independence positively influences fraud prevention, with the institutional environment acting as a moderator. Pakaya et al. (2024) similarly report that independence enables internal auditors to perform their duties more enthusiastically, while Nur Rizky et al. (2023) observe that internal-auditor competency and independence jointly diminish fraud incidents in public accounting firms. Within the Indonesian Ministry of Marine Affairs and Fisheries, however, Sumito and Setiyawati (2019) report a weak association between independence and audit quality, suggesting that the relationship may be moderated by institutional culture. On balance, the weight of evidence supports the following hypothesis:

H1: There is a significant positive relationship between the independence of the internal audit function and corruption prevention in the Iraqi public sector.

Competence of Internal Audit and Corruption Prevention

Competence comprises the knowledge, skills and other capabilities required for an internal auditor to perform assurance and consulting engagements at a professional standard (IIA, 2024). The Institute of Internal Auditors identifies three dimensions of competence: technical knowledge, behavioural skills, and the application of professional judgement. It emphasises that competence must be acquired through formal education, professional certification, and continuous on-the-job experience (IIA, 2024; Plant et al., 2013). The Global Internal Audit Standards, effective January 2025, explicitly require chief audit executives to maintain a competency framework, monitor staff capabilities, and invest in continuous professional development.

A robust body of evidence links auditor competence to fraud-prevention outcomes. Novatiani et al. (2024), in a Cogent Business and Management study, show that auditor competence directly improves internal audit quality, which in turn reduces the incidence of fraudulent financial statements. Mpakaniye (2022) reports a positive association between the competence of internal audit staff and audit-function effectiveness in Rwandan public organisations. In the Indonesian SOE context, recent work by West Science Accounting & Finance (2025) confirms that competence, independence, and management support jointly explain 54.1 per cent of the variance in fraud prevention through a regression specification that closely mirrors the present study. The combined evidence supports a directional prediction:

H2: There is a significant positive relationship between the competence of the internal audit function and corruption prevention in the Iraqi public sector.

Effectiveness of Internal Audit and Corruption Prevention

Effectiveness measures the extent to which the internal audit function achieves its intended objectives, including the timely identification of risks, the credibility of its reports and the adoption of its recommendations by management (Alzeban & Gwilliam, 2014; Mensah et al., 2020). Effectiveness is conceptually distinct from independence and competence in that it is an outcome variable that depends on the interaction between auditor capabilities, management support and the broader institutional environment (OECD, 2024).

Empirical research generally finds a positive relationship between audit effectiveness and the prevention of fraud and corruption. Drogalas et al. (2017), Khan et al. (2020) and Raihana et al. (2013) report that effective internal auditing reduces wrongdoing and improves organisational performance. However, several studies caution that effectiveness is contingent on contextual factors. Alzeban and Sawan (2013) note that internal auditors in Saudi Arabia frequently report to the general manager of financial management, creating a structural dependence that erodes the substantive impact of audit findings. In the Iraqi public sector, similar structural constraints apply. Auditors typically report to senior management whose own performance is being assessed, creating a feedback loop in which

Audit effectiveness may be hollowed out by political and administrative interference (Khalid Salih & Tin Hla, 2016). Based on mainstream empirical evidence, the directional hypothesis is stated as:

H3: There is a significant positive relationship between the effectiveness of the internal audit function and corruption prevention in the Iraqi public sector.

RESEARCH METHODOLOGY

The study adopts a quantitative cross-sectional survey design. This approach is appropriate for testing a small number of clearly specified hypotheses concerning the relationships between observable audit attributes and a measurable outcome variable (Sekaran & Bougie, 2016). The design also enables the use of well-established statistical techniques, including descriptive analysis, Pearson correlation and multiple linear regression, all of which are routinely employed in the audit-quality and fraud-prevention literature published in Q1 and Q2 indexed journals (Bonrath & Eulerich, 2024; Nadirsyah et al., 2024). The target population comprises all internal auditors employed in public-sector ministries within the Salahuddin region of Iraq. The Salahuddin region was selected because it is the third Iraqi region, after Kurdistan and Baghdad, in which civil servants reported the highest personal experience of corruption (UNODC, 2013), and because limited prior research has been published on its public sector. According to records held by the regional audit department, the total population of internal auditors across the seven major ministries operating in Salahuddin amounts to 214 individuals, as depicted in Table 1.

Table 1. Distribution of Internal Auditors across Salahuddin Ministries

No.	Ministry	Number of Auditors
1	Ministry of Education	28
2	Ministry of Electricity	13
3	Ministry of Finance	19
4	Ministry of Health	36
5	Ministry of Higher Education	51
6	Ministry of Industry	14
7	Ministry of Oil	56
	Total	**214**

Source: Audit Department, Salahuddin Regional Authority.

Using the Raosoft sample-size calculator, with a population of 214, a 5 per cent margin of error, a 95 per cent confidence level and a 50 per cent response distribution, the recommended sample size was 138 respondents. To address the unique and challenging institutional setting of the Iraqi public sector, this study applied a purposive sampling technique. This approach was strictly necessary because the research questions require highly specialized knowledge that only practicing internal auditors possess. Furthermore, focusing exclusively on these professionals ensures the contextual suitability of the data, as they are the only actors with ground-level insight into the daily realities of management interference and audit constraints within the Salahuddin region's ministries. The survey instrument was carefully adapted from the validated tools developed by Alzeban and Gwilliam (2014) and Asiedu and Deffor (2017). To guarantee its contextual relevance and construct validity for Iraqi civil servants, the questionnaire underwent rigorous semantic adaptation. It was translated into Arabic and then back-translated into English following Brislin's translation protocol, ensuring that the measurement scales accurately captured the localized nuances and specific cultural dimensions of the Iraqi institutional environment (Asiedu & Deffor, 2017; Mpakaniye, 2022).

The questionnaire was adapted from the validated instruments developed by Alzeban and Gwilliam (2014) and Asiedu and Deffor (2017), both of which have been applied in subsequent studies of public-sector audit (Mpakaniye, 2022; Nadirsyah et al., 2024). Items were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was translated into Arabic and English to ensure semantic equivalence, in line with the recommendations of Brislin's translation protocol.

The internal audit independence construct comprises seven items, capturing dimensions such as managerial permission for professional duties, reporting lines, board access, freedom from conflicts of interest, and access to records and personnel. The competence construct comprises six items, reflecting the adequacy of skilled staff, certification, technological proficiency, and the timeliness of audit procedures. The effectiveness construct comprises six items measuring the extent to which audit activities meet stakeholder expectations, the clarity and professionalism of reports, and the influence of audit findings on management decision-making. The dependent construct, corruption prevention, comprises seven items addressing the FBSA's role in fighting corruption, the audit department's contribution to anti-corruption activities, the perception of corruption trends in Iraq, and the threats faced by auditors who disclose corrupt activities.

Data were entered and analysed using IBM SPSS Statistics version 23. The analytical procedure followed four sequential stages. First, reliability was tested using Cronbach's alpha, with a threshold of 0.60 considered acceptable in line with Md Ghazali (2016) and Wilson Mugizi et al. (2016). Second, item validity was tested using item-total Pearson correlation, with a threshold of 0.30. Third, descriptive statistics, including means, standard deviations and minimum and maximum values, were computed. Fourth, Pearson correlation analysis was conducted to examine bivariate relationships, followed by multiple linear regression to test the hypothesised effects, with hypothesis testing conducted at the 5 per cent significance level. The regression model is specified as follows:

$$\mathbf{CORR = \beta0 + \beta1\ (IND) + \beta2\ (COMP) + \beta3\ (EFF) + \varepsilon}$$

In this equation, CORR represents corruption prevention, IND stands for internal audit independence, COMP denotes internal audit competence, EFF signifies internal audit effectiveness, $\beta0$ is the constant, and ε represents the error term.

RESULTS

Reliability and Validity

Cronbach's alpha values for all four constructs exceed the conventional threshold of 0.60. Specifically, the alpha values are: 0.800 for independence, 0.879 for competence, 0.839 for effectiveness, and 0.642 for corruption prevention (Table 2). These values demonstrate satisfactory internal consistency and are consistent with the reliability ranges reported in comparable studies of public-sector internal auditing (Asiedu & Deffor, 2017; Mpakaniye, 2022).

Table 2. Reliability Statistics

No.	Construct	Cronbach's alpha	No. of Ites	Status
1	Independence	0.800	7	Reliable
2	Competence	0.879	6	Reliable
3	Effectiveness	0.839	6	Reliable
4	Corruption Prevention	0.642	7	Reliable

Item validity testing using item-total Pearson correlation indicated that 25 of the 26 items exceed the 0.30 threshold. Only one corruption-prevention item (CORR2: "Corruption is the abuse of office for personal interest") failed the validity test, with a correlation of 0.014, suggesting that respondents interpreted this item as a definitional rather than experiential statement. This item was therefore excluded from the construct in the regression analysis. All remaining items demonstrate adequate validity for the regression-based hypothesis tests that follow.

Descriptive Statistics

The descriptive statistics presented in Table 3 indicate that the average score for internal audit independence is 28.69 (SD = 3.65), suggesting that respondents perceive moderate to high levels of independence in their daily practice. The mean score for competence is 22.80 (SD = 4.74), and the mean score for effectiveness is 23.30 (SD = 4.32), both indicating moderate levels. Corruption prevention has an average score of 24.89 (SD = 3.10). These distributions are comparable with those reported in recent fragile-state audit studies (Hoang, 2024; Nadirsyah et al., 2024).

Table 3. Descriptive Statistics

Variable	N	Mean	Std. Dev.	Min/Max
Independence (IND)	102	28.69	3.65	2 / 5
Competence (COMP)	102	22.80	4.74	2 / 4
Effectiveness (EFF)	102	23.30	4.32	2 / 5
Corruption Prevention (CORR)	102	24.89	3.10	2 / 4

Correlation Analysis

Pearson correlation analysis (Table 4) shows that all three audit attributes are positively and significantly correlated with corruption prevention at the 0.01 level. The strongest bivariate association is between competence and corruption prevention ($r = 0.840$, $p < 0.001$), followed by independence ($r = 0.667$, $p < 0.001$) and effectiveness ($r = 0.664$, $p < 0.001$). The audit attributes are also strongly inter-correlated, with the highest correlation between competence and effectiveness ($r = 0.887$). Although these inter-correlations raise the possibility of multicollinearity, the variance inflation factors reported in the regression analysis below remain below the conventional threshold of 10, indicating that multicollinearity does not materially distort the estimated coefficients.

Table 4. Pearson Correlation Matrix

Variable	CORR	IND	COMP	EFF
CORR	1			
IND	0.667**	1		
COMP	0.840**	0.763**	1	
EFF	0.664**	0.827**	0.887**	1

Note: ** Correlation is significant at the 0.01 level (two-tailed). N = 102.

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Multiple Linear Regression

The multiple regression model is statistically significant overall ($F = 102.51$, $p < 0.001$) and explains 75.1 per cent of the variance in corruption prevention (Adjusted $R^2 = 0.751$). The standardised regression coefficients in Table 5 present the central empirical findings of the study.

Table 5. Multiple Regression Results (Dependent Variable: Corruption Prevention)

Variable	Coefficient (B)	t-value	Sig.	Conclusion
(Constant)	10.899	8.642	0.000	—
Independence (IND)	0.266	2.996	0.003	Supported
Competence (COMP)	1.141	10.541	0.000	Supported
Effectiveness (EFF)	−0.569	−4.572	0.000	Negative & significant.

Note: $R^2 = 0.758$, Adjusted $R^2 = 0.751$, $F = 102.51$ ($p < 0.001$), $N = 102$.

The independence of the internal audit function exerts a positive and statistically significant effect on corruption prevention ($\beta = 0.266$, $t = 2.996$, $p < 0.01$), supporting H1. A one-unit increase in independence is associated with a 0.266-unit increase in corruption prevention, holding the other variables constant. Competence has the largest effect on corruption prevention ($\beta = 1.141$, $t = 10.541$, $p < 0.001$), strongly supporting H2. By contrast, the coefficient on effectiveness is negative and significant ($\beta = -0.569$, $t = -4.572$, $p < 0.001$), so although the bivariate correlation is positive, the partial regression effect, after controlling for independence and competence, is negative. H3, in its directional form, is therefore not supported. The implications of this counterintuitive result are discussed in Section 5.

DISCUSSION

Independence and Corruption Prevention

The finding that internal audit independence is positively and significantly associated with corruption prevention in the Iraqi public sector aligns with a substantial body of recent evidence. Bonrath and Eulerich (2024) demonstrate that internal auditors who report to the audit committee assess fraud risk more rigorously than auditors who report to management, while Yuningsi (2025) and Pakaya et al. (2024) confirm that organisational and behavioural independence are central to the prevention of fraud in Indonesian publicsector inspectorates. The Iraqi finding extends these conclusions to a fragile-state context in which independence has historically been compromised by political appointment processes (Dodge, 2019) and the absence of meaningful whistle-blower protection (UNODC, 2013).

From an agency-theoretic perspective, the result confirms that auditor independence functions as the structural precondition for credible monitoring. Where reporting lines bypass operational management and where the audit committee or board approves the appointment and replacement of the chief audit executive, internal auditors are more willing to surface findings that implicate senior officials. The Global Internal Audit Standards (IIA, 2024), effective January 2025, reinforce this principle by requiring internal audit functions to position themselves at a hierarchical level that protects both individual objectivity and organisational independence. The Iraqi result therefore offers practical empirical support for the IIA's revised framework in a setting where it is most needed.

Competence and Corruption Prevention

The strongest empirical relationship in the study is between competence and corruption prevention ($\beta = 1.141$, $p < 0.001$). This finding is consistent with the meta-narrative across studies published since 2020. Novatiani et al. (2024) and the West Science Accounting and Finance (2025) study report comparable positive coefficients in Indonesian SOEs and government inspectorates. Mpakaniye (2022) demonstrates that the competence of internal audit staff is the strongest predictor of audit-function effectiveness in Rwandan public organisations. Khan et al. (2020) and Singh et al. (2021) report similar findings in Pakistan and Malaysia.

The strength of the competence effect in Iraq has both theoretical and practical implications. Theoretically, it confirms that the agency-theoretic monitoring mechanism depends not only on structural independence but also on the technical capacity of monitors to identify, evaluate, and document anomalies. Practically, the finding suggests that targeted investment in continuous professional development, the introduction of internationally recognised certifications such as the Certified Internal Auditor designation, and the deployment of modern audit-data-analytics tools could yield disproportionately high returns in fraud prevention. This conclusion aligns with the World Bank Centre for Financial Reporting Reform's (2024) recent guidance on integrating data analytics into public-sector internal audit and with the IIA's (2024) cybersecurity topical requirement effective from January 2025.

It is also important to interpret the magnitude of the standard competence coefficient ($\beta = 1.141$) considering the variance inflation diagnostics. The competence variable shares substantial common variance with both independence and effectiveness in the present sample, which inflates the absolute size of the partial coefficient. Even after this inflation is considered, however, the substantive conclusion is unchanged: of the three audit attributes examined, competence is the most consequential single predictor of corruption-prevention outcomes in the Iraqi public sector. This conclusion is also consistent with the recent emphasis on capability development in the Public Integrity Indicators (OECD, 2025), which highlight the gap between regulatory provisions and practical capability across both OECD and partner countries. In Iraq, where formal regulations exist on paper but are inconsistently applied, building competence is therefore a necessary, if not sufficient, condition for any meaningful improvement in audit-driven corruption prevention.

A complementary perspective is provided by the systematic review of Bonrath and Eulerich (2024), which finds that the competence of internal auditors is closely associated with the use of technology-enabled audit techniques, including continuous auditing, network analysis and predictive modelling. In the Iraqi context, where the audit profession has historically relied on manual sample testing and where the digital infrastructure of ministries varies widely, the marginal returns to competence investment are likely to be highest where they are paired with investment in audit-management software and data infrastructure. This suggests a sequenced reform agenda that pursues professional development, technology deployment, and reporting-line reform simultaneously rather than in isolation.

Effectiveness and Corruption Prevention: An Anomalous Result

The most theoretically and practically significant finding is the negative and significant relationship between internal audit effectiveness and corruption prevention. Although the bivariate correlation between effectiveness and corruption prevention is positive ($r = 0.664$), the partial regression coefficient, after controlling for independence and competence, is negative ($\beta = -0.569$, $p < 0.001$). The counterintuitive negative relationship between audit effectiveness and corruption prevention ($\beta = -0.569$) demands careful statistical and contextual scrutiny. From a statistical standpoint, the high inter-correlation between effectiveness and competence ($r = 0.887$) indicates that these two variables may be capturing a heavily overlapping latent construct within this fragile setting. Although the variance inflation factor (VIF) for effectiveness remains below the conventional threshold of 10, peaking at 6.28, this high multicollinearity can cause sign-flipping and coefficient instability in standard multiple linear regression models. Consequently, this negative coefficient should be interpreted with caution. To ensure the robustness of this finding and assess whether the result remains stable, future studies must subject these relationships to additional robustness tests. Specifically, future analyses should consider alternative model specifications, the application of dimensionality reduction methods (such as principal component analysis) to merge these overlapping constructs, or the use of regularisation techniques (such as Ridge regression) to penalize coefficient inflation.

Second, in fragile institutional environments, what auditors describe as effectiveness may, paradoxically, capture the absence of conflict with management rather than the substantive impact of audit findings. Alzeban and Sawan (2013) report that in Saudi Arabia, internal auditors who avoid challenging the general manager of financial management are perceived as more effective in process terms but less effective in substantive outcomes. The same dynamic has been documented in Iraqi ministries, where audit reports that align with management priorities are more likely to be acted upon, whereas reports that surface evidence of corruption are quietly shelved (Khalid Salih & Tin Hla, 2016).

Thirdly, a behavioural interpretation is also plausible. In environments where senior auditors have been politically appointed, the perception of effectiveness may reflect the auditors' ability to navigate political pressure rather than their capacity to deter corrupt activity. This explanation is consistent with Bonrath and Eulerich's (2024) finding that perceived management expectations significantly shape the focus of internal audit activity, often shifting it away from control-based assurance towards advisory and consulting work. The Iraqi result therefore offers an important cautionary signal: audit-effectiveness scales developed in mature institutional environments may capture different latent constructs when applied in fragile-state settings.

Taken together, these explanations imply that effectiveness in fragile contexts cannot be treated as an unconditional positive antecedent of corruption prevention. Rather, effectiveness is contingent on the broader institutional environment, including the quality of reporting lines, the strength of the audit committee, the protection of whistle-blowers and the credibility of follow-up enforcement (OECD, 2024). Future research should explore this contingency through moderation and mediation models, building on Yuningsi's (2025) recent moderation work on the institutional environment in Buol Regency, Indonesia.

CONCLUSION, LIMITATIONS AND FUTURE RESEARCH

This study examined the relationship between the internal audit function's three attributes: independence, competence, and effectiveness and corruption prevention in the Iraqi public sector. Drawing on a survey of 102 internal auditors in seven Salahuddin ministries and applying multiple linear regression, the study finds that independence and competence are positively and significantly associated with corruption prevention, while effectiveness is negatively and significantly associated, suggesting that effectiveness in fragile institutional contexts is contingent on broader environmental factors. Together, the three constructs explain 75.1 per cent of the variance in corruption prevention, a substantial figure that confirms the central role of the internal audit function in supporting public-sector integrity.

The study advances the agency-theoretic literature on public-sector auditing by extending its application to a fragile-state context; complements recent post-2023 evidence from Indonesia, Vietnam, Pakistan, Rwanda and the OECD; and offers a forward-looking practical agenda aligned with the Global Internal Audit Standards effective January 2025. By doing so, it responds to repeated calls in the Q1 audit-quality literature for empirical evidence from under-researched, conflict-affected economies (Bonrath & Eulerich, 2024; Singh et al., 2021). Ultimately, as a baseline exploratory study in the heavily restricted Salahuddin region, this research establishes a critical empirical foundation for understanding audit dynamics in fragile states, leading to future longitudinal and advanced structural analyses.

The study makes four theoretical contributions. First, it operationalises agency theory in a fragile-state context where the principal-agent chain is unusually long and standard monitoring mechanisms are weakened by political interference. Second, it confirms that independence and competence are robust predictors of fraud-prevention outcomes even when audit functions operate under significant institutional constraints. Third, it problematises the unidirectional treatment of effectiveness in the audit-quality literature and calls for a more contingent theory that acknowledges the moderating role of the institutional environment. Fourth, by integrating evidence from the IIA's 2024 Global Internal Audit Standards and the OECD's 2024 Public Integrity Indicators, the study links micro-level audit attributes to macro-level integrity-system performance.

The findings carry direct practical implications for the FBSA, Iraqi line ministries and external donors. First, the FBSA should formalise the structural independence of internal audit units by ensuring that chief audit executives report functionally to an audit committee composed of board members or, where boards do not exist, to the relevant minister, supplemented by an external integrity advisor. Second, ministries should invest in competence-building through formal partnerships with the Iraqi Association of Certified Public Accountants and international bodies such as the IIA, with priority given to certification in forensic accounting and audit data analytics. Third, the negative effectiveness coefficient suggests that effectiveness should be measured not only through process indicators (timeliness, report quality) but also through outcome indicators (number of recommendations implemented, value of recovered funds, reduction in repeat findings). Fourth, donors supporting Iraqi public-financial-management reform should condition further investment on measurable improvements in audit independence and the implementation of audit-management systems aligned with the IIA's 2024 standards.

Beyond these immediate implications, the study suggests a broader sequencing logic for integrity reform. The strong empirical role of competence indicates that, where political constraints make immediate reform of reporting lines difficult, governments and donors can begin by investing in the technical capability of audit staff. Improvements in audit-data analytics, forensic skills and risk-based methodologies generate measurable benefits even before structural reforms are politically feasible, and they help build a constituency of professionally credentialed auditors who can subsequently advocate for reporting-line reform from a position of institutional credibility. The OECD (2025) Public Integrity Indicators provide a globally comparable benchmarking framework that Iraqi authorities could adopt to monitor progress on both regulatory provision and practical implementation, complementing the FBSA's own performance-management system.

A further practical implication concerns the role of digital tools. The accelerating adoption of AI-enabled audit tools, automated continuous control monitoring, and natural-language processing of procurement documentation offers unprecedented opportunities for the early detection of red flags in public spending. The IIA's 2024 Topical Requirement on cybersecurity audits, the first in a planned series of domain-specific requirements, signals the direction of travel for the global profession. For Iraq, where ministries vary widely in their digital maturity, prioritising the deployment of standardised audit management systems across the FBSA and major spending ministries would create the data infrastructure necessary to operationalise these emerging techniques. Such a prioritisation would also align Iraqi practice with the recommendations of the World Bank Centre for Financial Reporting Reform (2024) on the use of analytics in public-sector audit and with the comparative benchmarking exercises conducted under the OECD Public Integrity Indicators (OECD, 2025).

The limitations of this study present clear pathways for advancing the field. First, because this study relies exclusively on self-reported perceptions of audit attributes and corruption, the findings are susceptible to social-desirability and common method biases. To mitigate this, future research would substantially benefit from incorporating objective indicators of corruption prevention and audit performance, rather than relying exclusively on perceptions. Such metrics could include the total value of recovered public funds, the explicit percentage of audit recommendations implemented by management, or the measurable reduction in repeat audit findings. Second, the cross-sectional design and restriction to the Salahuddin region limit the ability to draw causal inferences or generalize the findings across the entire country. To overcome these endogeneity concerns and improve causal interpretation and generalisability, subsequent studies should employ a longitudinal or comparative research design encompassing multiple Iraqi regions over time.

Finally, acknowledging that audit effectiveness is highly contingent on its operating environment, it is imperative to move beyond direct linear assessments. Future research should develop complex models that examine the institutional environment, audit committee characteristics, whistle-blower protection frameworks, the integration of digital audit tools, and the degree of management interference as critical moderating or mediating factors. Examining these variables will provide a more granular understanding of how internal audit functions can be optimized to combat corruption in fragile and conflict-affected states. Qualitative research using in-depth interviews and case studies could elucidate the behavioural and political dynamics that shape audit effectiveness in fragile states. Given the rapid integration of artificial intelligence and data analytics into internal audit practice, future research should investigate how the adoption of these technologies interacts with the traditional audit attributes examined here.

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