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Using Artificial Intelligence to Enhance the Quality of Accounting Information in Iraqi Economic Units

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Abstract: This study investigates the effect of artificial intelligence (AI) capability on the quality of accounting information in Iraqi economic units, with the mediating role of accounting information system (AIS) quality and the moderating effects of firm size, governance quality, and digital readiness. Using a quantitative, cross-sectional design, data are collected through a structured questionnaire from 351 accountants, financial managers, and IT officers in Iraqi public and private organizations. Structural equation modeling (SEM) using Smart PLS 4 was employed to test the proposed hypotheses. The results indicate that AI capability has a significant positive effect on both AIS quality and accounting information quality. AIS quality partially mediates the relationship between AI capability and accounting information quality, accounting for a substantial portion of the total effect. In addition, firm size, governance quality, and digital readiness significantly moderate the AI-accounting information quality relationship. These findings demonstrate that AI adoption enhances the relevance, reliability, and timeliness of accounting information in Iraq, particularly when supported by strong system quality and institutional conditions. The study provides empirical evidence to support digital transformation initiatives in the Iraqi accounting profession and offers practical implications for managers, regulators, and policymakers.

استخدام الذكاء الاصطناعي لتحسين جودة المعلومات المحاسبية في الوحدات الاقتصادية العراقية

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المستخلص

تبحث هذه الدراسة أثر قدرات الذكاء الاصطناعي على جودة المعلومات المحاسبية في الوحدات الاقتصادية العراقية، مع التركيز على دور جودة نظام المعلومات المحاسبية كوسيط، وتأثيرات حجم الشركة، وجودة الحوكمة، والجاهزية الرقمية كعوامل معدلة. باستخدام تصميم كمي مقطعي، جُمعت البيانات من خلال استبيان مُهيكل وُزِعَ على 351 محاسباً ومديراً مالياً ومسؤولاً عن تقنية المعلومات في مؤسسات عراقية عامة وخاصة. استُخدم نموذج المعادلات الهيكلية (SEM) باستخدام برنامج SmartPLS 4 لاختبار الفرضيات المقترحة. تشير النتائج إلى أن قدرات الذكاء الاصطناعي لها أثر إيجابي كبير على كلٍّ من جودة نظام المعلومات المحاسبية وجودة المعلومات المحاسبية. تُساهم جودة نظام المعلومات المحاسبية جزئياً كوسيط في العلاقة بين قدرات الذكاء الاصطناعي وجودة المعلومات المحاسبية، حيث تُفسر جزءاً كبيراً من الأثر الكلي. بالإضافة إلى ذلك، يُعدّ حجم الشركة وجودة الحوكمة والجاهزية الرقمية عوامل مؤثرة بشكل كبير في العلاقة بين الذكاء الاصطناعي وجودة المعلومات المحاسبية. تُظهر هذه النتائج أن تبني الذكاء الاصطناعي يُحسّن من ملائمة وموثوقية وتوقيت المعلومات المحاسبية في العراق، لا سيما عند دعمه بجودة نظام قوية وظروف مؤسسية ملائمة. تُقدّم هذه الدراسة أدلة تجريبية لدعم مبادرات التحول الرقمي في مهنة المحاسبة العراقية، وتُقدّم تطبيقات عملية للمديرين والجهات التنظيمية وصانعي السياسات. **الكلمات المفتاحية:** الذكاء الاصطناعي؛ جودة المعلومات المحاسبية؛ التقارير المالية الآنية؛ الوحدات الاقتصادية.

1. Introduction:

The global accounting profession has undergone a profound transformation over the past decade as a result of rapid digitalization. Among the most influential drivers of this transformation is artificial intelligence (AI), which has emerged as both a disruptive and enabling technology capable of reshaping how organizations record, process, analyze, and report financial information. Traditional accounting practices that relied heavily on manual data entry and periodic reconciliation are increasingly being replaced by intelligent systems that automatically capture transactions, process complex data structures, and generate real-time, decision-useful information. Beyond task automation, AI directly enhances the credibility and quality of accounting information through advanced analytical and predictive capabilities (Moll & Yigitbasioglu, 2019: 3).

High-quality accounting information is essential for effective decision-making, as it reduces information asymmetry, strengthens managerial oversight, and enhances investor confidence. Conversely, low-quality accounting information may result in inefficient resource allocation, financial misstatements, and a loss of stakeholder trust (Francis et al., 2005: 297; Dechow et al., 2010: 346). Artificial intelligence contributes to improving accounting information quality through machine-learning algorithms that detect abnormal transaction patterns indicative of errors or fraud, as well as natural language processing (NLP) techniques that extract structured data from unstructured sources such as contracts, invoices, and regulatory reports. Moreover, deep-learning models enable the prediction of accrual behavior and liquidity risks, allowing accountants to shift from purely historical reporting toward forward-looking analysis (Issa, Sun, & Vasarhelyi, 2016: 5).

Despite these global advancements, many developing economies continue to face substantial challenges in adopting AI-enabled accounting systems. In Iraq, economic units such as public enterprises, banks, and private companies still depend largely on legacy accounting systems characterized by limited analytical capabilities. Weak governance structures, inadequate enforcement of accounting standards, and insufficient digital infrastructure further constrain the institutional environment (Al-Ani & Khalaf, 2023: 216). As a result, accounting information in many Iraqi organizations suffers from reporting delays, limited comparability, and vulnerability to manual errors, which undermines market transparency and weakens investor confidence.

The DeLone and McLean (2003) Information Systems Success Model provides a robust theoretical lens for understanding this issue, as it emphasizes that system quality directly influences information quality and organizational performance (p. 13). Within this framework, AI can be conceptualized as a critical driver of system quality through its ability to enhance automation, accuracy, system integration, and data integrity. Consequently, improving accounting information system (AIS) quality through AI adoption is expected to lead to significant improvements in the qualitative characteristics of accounting information (Salehi et al., 2021: 275).

Building on these foundations, this study examines the role of AI-enabled accounting information systems in enhancing accounting

information quality in Iraqi economic units. Specifically, it investigates how AI capabilities—such as data classification, predictive analytics, and exception analysis—can address structural weaknesses in existing accounting systems (Monteiro et al., 2023: 7; Liu et al., 2022: 6). The study proposes a conceptual framework that links AI capability, AIS quality, and accounting information quality, while also considering the moderating effects of governance quality and digital readiness. This research contributes both academically and practically by extending the literature on AI and accounting in a developing-economy context and by offering insights for regulators, auditors, and managers seeking to improve the effectiveness of accounting systems in Iraq.

2. Research Questions

Main Research Question: How does artificial intelligence (AI) capability influence the quality of accounting information in Iraqi economic units, considering the mediating role of accounting information system (AIS) quality and the moderating effects of organizational and technological factors?

Sub-Research Questions:

RQ1. What is the direct effect of AI capability on the quality of accounting information in Iraqi economic units?

RQ2. What is the effect of AI capability on the quality of accounting information systems (AIS)?

RQ3. Does AIS quality mediate the relationship between AI capability and accounting information quality?

RQ4. Do firm size, governance quality, and digital readiness moderate the relationship between AI capability and accounting information quality?

RQ5. Which dimensions of accounting information quality (relevance, reliability, timeliness, comparability, and verifiability) are most influenced by AI-enabled AIS?

The purpose of these questions is to systematically examine the direct, mediating, and moderating mechanisms through which AI capability affects accounting information quality within the institutional context of Iraq.

3. Research Objectives: The main objective of this study is to empirically examine the effect of artificial intelligence (AI) capability on accounting information quality in Iraqi economic units, considering the mediating role

of accounting information system (AIS) quality and the moderating effects of selected organizational and technological factors.

The specific objectives of the study are to:

1. Measure the direct effect of AI capability on accounting information quality in Iraqi economic units.
2. Examine the effect of AI capability on accounting information system (AIS) quality.
3. Test the mediating role of AIS quality in the relationship between AI capability and accounting information quality.
4. Assess the moderating effects of firm size, governance quality, and digital readiness on the relationship between AI capability and accounting information quality.
5. Determine the impact of AI capability on the individual dimensions of accounting information quality, namely relevance, reliability, timeliness, comparability, and verifiability.
6. Evaluate the explanatory and predictive power of the proposed research model using structural equation modeling (SEM).

4. Research Hypotheses:

H1. Artificial intelligence capability has a significant positive effect on accounting information quality in Iraqi economic units.

H2. Artificial intelligence capability has a significant positive effect on accounting information system quality.

H3. Accounting information system quality has a significant positive effect on accounting information quality.

H4. Accounting information system quality mediates the relationship between artificial intelligence capability and accounting information quality.

H5. Firm size moderates the relationship between AI capability and accounting information quality such that the relationship is stronger in larger firms.

H6. Governance quality moderates the relationship between AI capability and accounting information quality such that the relationship is stronger under higher levels of governance quality.

H7. Digital readiness moderates the relationship between AI capability and accounting information quality such that the relationship is stronger in firms with higher digital readiness.

The proposed model assumes both direct and indirect effects, incorporating mediation and moderation pathways consistent with structural equation modeling (SEM) approaches used in high-impact accounting research (Monteiro et al., 2023; Liu et al., 2022).

5. Literature Review

Literature Review (Critical and Analytical Version)

5-1. Accounting Information Quality: Concept and Empirical Evidence: Accounting information quality constitutes a core element of efficient financial reporting and market transparency. The IASB (2018) defines qualitative characteristics in terms of relevance, faithful representation, comparability, verifiability, timeliness, and understandability (p. 6). While this framework provides a strong conceptual foundation, empirical studies have operationalized accounting information quality using diverse proxies, leading to variations in findings across contexts.

Prior studies consistently demonstrate that high-quality accounting information reduces information asymmetry and agency costs and improves firm valuation (Francis et al., 2005, p. 298; Dechow et al., 2010, p. 347). However, these studies were largely conducted in developed capital markets with strong institutional frameworks, which limits their direct applicability to developing economies. Moreover, most prior research focuses on outcomes of accounting information quality rather than its technological determinants, revealing a gap in understanding the role of digital technologies—especially AI—in shaping information quality.

Thus, while the literature confirms the importance of accounting information quality, it provides limited empirical insight into how emerging technologies structurally enhance these qualitative characteristics, particularly in weak institutional environments such as Iraq.

5-2. Artificial Intelligence in Accounting Information Systems: From Automation to Information Quality: Artificial intelligence has been widely examined as a transformative technology in accounting. Russell and Norvig (2021) conceptualize AI as systems capable of learning, reasoning, and pattern recognition (p. 2). In accounting applications, AI has been shown to automate transaction processing, enhance anomaly detection, and support predictive analytics (Issa et al., 2016: 4).

Empirical evidence generally supports the performance-enhancing role of AI. Moll and Yigitbasioglu (2019) argue that AI transforms the accountant's role from data recorder to strategic analyst (p. 4), while Appelbaum et al. (2017) find that AI improves audit quality and professional judgment (p. 9). Monteiro et al. (2023) and Liu et al. (2022) provide large-sample evidence that AI adoption improves timeliness and faithful representation of financial information (Monteiro et al., 2023: 8; Liu et al., 2022: 6).

Despite these contributions, two major limitations emerge. First, most empirical studies are concentrated in developed or digitally advanced economies, which restricts generalizability to developing contexts. Second, many studies focus on operational or audit outcomes, while treating accounting information quality as a secondary effect rather than a central dependent construct. Consequently, the causal mechanisms through which AI influences accounting information quality remain insufficiently theorized in emerging economies.

5-3 Accounting Information System Quality as a Mediating Mechanism: Recent studies increasingly recognize that the impact of AI on accounting outcomes is not purely direct but operates through the quality of accounting information systems. Rozario and Thomas (2019) demonstrate that AI enhances real-time processing, error detection, and system responsiveness, all of which are key elements of AIS quality (p. 5).

Empirical evidence from emerging markets supports this mediating mechanism. Al-Buraiki (2024) confirms that AIS quality partially mediates the relationship between AI adoption and accounting information accuracy in Saudi Arabia (p. 1294). Similarly, Monteiro et al. (2023) show that AI strengthens internal controls and system reliability before improving accounting outputs (p. 9).

However, the mediation effect has rarely been tested in institutionally weak environments such as Iraq. Moreover, most studies treat AIS quality as a technical construct, without incorporating organizational and governance conditions that may condition this mediation. This creates a significant empirical gap that this study directly addresses.

5-4 Theoretical Foundations: RBV and IS Success Model (Critical Integration): The Resource-Based View (RBV) posits that firm performance depends on valuable, rare, inimitable, and non-substitutable

resources (Barney, 1991: 101). Artificial intelligence qualifies as a strategic resource; however, RBV alone does not explain how technological resources are converted into information-quality outcomes.

The DeLone and McLean (2003) Information Systems Success Model complements this limitation by specifying that system quality and information quality jointly determine organizational impact (p. 12). While this model has been widely validated, it has been criticized for its limited treatment of emerging digital capabilities such as AI.

By integrating RBV and the IS Success Model, this study overcomes the individual limitations of both theories: RBV explains why AI matters strategically, while the IS Success Model explains how AI affects accounting information quality through AIS quality. This theoretical integration has rarely been empirically tested in developing economies, representing a key theoretical contribution of this research.

5-5. AI and Accounting Information Quality in Emerging Economies: Inconsistent and Context-Dependent Evidence: Emerging-economy evidence confirms that AI can improve accounting and audit outcomes even under resource constraints. Ben Amar et al. (2022) find that AI tools enhance audit efficiency and data reliability in Tunisia (p. 452). Al-Buraiki (2024) reports similar results in Saudi Arabia, with AIS quality acting as a mediator (p. 1296).

However, these results are not uniform across contexts. Implementation challenges—such as high costs, weak digital infrastructure, and limited technical expertise—often constrain the effectiveness of AI in developing regions. In Iraq, empirical evidence remains extremely limited. Al-Zubaidi and Mehdi (2024) document positive practitioner perceptions toward AI but highlight serious concerns regarding cybersecurity risks, regulatory uncertainty, and financial constraints (p. 7).

Importantly, no prior Iraqi study has empirically tested the structural relationship between AI capability, AIS quality, and accounting information quality using a multivariate causal model. This lack of rigorous testing represents a clear empirical research gap.

5-6. Research Gap and Conceptual Framework Development: The critical review of prior studies reveals four main gaps:

1. The dominance of studies conducted in developed economies, limiting generalizability.

2. The limited treatment of AIS quality as a mediating mechanism.
3. The insufficient integration of organizational and governance factors as moderators.
4. The near absence of causal, model-based studies in the Iraqi context.

To address these gaps, this study develops a conceptual framework that links AI capability to accounting information quality directly and indirectly through AIS quality, while incorporating firm size, governance quality, and digital readiness as moderating variables. The model explicitly operationalizes accounting information quality through relevance, reliability, timeliness, comparability, and verifiability (IASB, 2018, p. 7).

Unlike prior descriptive studies, this framework enables empirical testing of causal, mediating, and moderating relationships, thereby extending existing theory into a developing-economy environment.

5-7. Summary of Key Studies

Author(s) & Year	Country/ Context	Main Variables	Methodology	Key Findings
Monteiro et al. (2023)	Portugal	AI adoption intensity; AIS quality; internal control	Structural equation modeling	AI adoption positively affects AIS and internal-control quality
Liu et al. (2022)	China	AI-ERP integration; accounting information quality	Regression analyzes	AI integration improves timeliness and reliability of financial data
Rozario & Thomas (2019)	USA	AI in auditing; decision quality	Experimental	AI enhances audit judgment and reduces human bias
Al-Ani & Khalaf (2023)	Iraq	Digital transformation; AIS performance	Survey	Digitalization gaps weaken AIS and accounting quality
Ben Amar et al. (2022)	Tunisia	AI tools; audit performance	Survey	AI increases data reliability and audit efficiency

Author(s) & Year	Country/ Context	Main Variables	Methodology	Key Findings
Al-Buraiki (2024)	Saudi Arabia	AI adoption; AIS quality; accounting information accuracy	SEM	AIS quality mediates AI-information-quality relationship
Al-Zubaidi & Mehdi (2024)	Iraq	AI perception; accounting reporting	Exploratory	Accountants perceive AI as beneficial but cite cost and security concerns

Source: Compiled by the author based on a synthesis of prior empirical studies.

5-8 Summary and Research Gap: To fill the gaps in existing research, the current investigation develops and tests a model incorporating AI capability, AIS quality and accounting information quality within economic units in Iraq. According to the model, AI can be strategically deployed by a particular information intermediary such that the financial report generated possesses enhanced transparency and reliability (as judged by the investor).

6. Methodology: This study used a quantitative, explanatory, and cross-sectional design to investigate the impact of artificial intelligence (AI) adoption on the quality of accounting information in Iraqi economic units. The research design was selected to enable the empirical testing of the AI capability and accounting information quality relationship via accounting information system (AIS) quality. The method of this article uses two theories, namely the resource-based view (RBV) theory which perceives AI as strategic as well as inimitable resource and the DeLone and McLean Information Systems Success Model which suggests improvement via system quality leads to higher information quality and organizational impact. All things considered, the combination of all the viewpoints discussed above would be a solid foundation to examine how technological resources could produce reliable, relevant and verifiable accounting information in a developing-economy context.

According to the most recent data from the Central Bank of Iraq, it is possible to use 26 words or less. As the Ministry of Industry and Minerals and the Iraq Stock Exchange state, approximately 1540 organizations

working in the industrial, service, and financial sector meet the above-mentioned criteria. A stratified random sampling method was employed to ensure representation, choosing firms proportionally from each sector. A minimum of 306 valid responses were needed to get a 95 percent level of confidence according to Krejcie and Morgan's (1970) sample size formula. For improved statistical power, questionnaires were distributed to accountants, finance managers and IT officers. The study received 351 usable responses after discarding the incomplete forms with a response rate of 87.7 percent. This response rate is higher than the recommended rate for Structural Equation Modelling (Hair, Hult, Ringle & Sarstedt, 2021).

Between April and June 2025, data was collected through offline as well as online method. Each company picked a qualified respondent, usually the chief accountant or financial controller, to respond to questions accurately. The structured questions used to device the research instrument were organized on four main variables; the artificial intelligence capability, AIS quality, and accounting information quality. Researchers utilized previously validated questionnaires to create their own questionnaire suitable for the Iraqi context. The survey was pilot tested with 25 academic and industrial professionals to ensure clarity and reliability.

Every creatively presented statement was measured using a five-point Likert scale. We measured the artificial intelligence capability of firms by reference to a six-item measure that depicts the system's ability to use automation for accounting functions, predictive analytics, anomaly detection, and natural-language processing of unstructured financial data. According to the study conducted by Monteiro, Cepeda, Ferreira-da-Silva, and Machado Vale (2023), and Liu, Wu, and Xu (2022), these items are tested empirically in the context. The measurement of the quality of accounting information system was done using system accuracy, integration, response time and easy access indicators that were based on DeLone and McLean (2003) original model and later utilized on accounting by Salehi, Abedini and Zarei (2021). Lastly, quality accounting information was measured by ten items including relevance, reliability, timeliness, comparability, and verifiability, following the conceptual dimensions of International Accounting Standards Board (2018) and Francis, LaFond, Olsson, and Schipper (2005) proxies. Also, we include control variables of

firm size, governance quality, and digital readiness to account for their contextual heterogeneity.

To analyze the data, the study employed the SmartPLS 4 software package for structural equation modeling (SEM). The coefficient of determination (R^2) indicates the accuracy of the model and the explanatory power of AI capability and AIS quality in the accounting information quality. In line with Hair et al. (2021), we report the effect size (f^2) and predictive relevance (Q^2).

Mathematically the model can be represent as follows.

$$AISQ = \beta_1 AIC + \varepsilon_1$$

$$AIQ = \beta_2 AIC + \beta_3 AISQ + \varepsilon_2$$

$$AIQ = \beta_4 (AIC \times GOV) + \beta_5 (AIC \times DIG) + \beta_6 (AIC \times SIZE) + \varepsilon_3$$

The symbols AISQ, AIQ, AIC, GOV, DIG and SIZE used in the study represent respectively accounting information system quality, accounting information quality, artificial intelligence capability, quality of governance, digital readiness and firm size. The error terms capture unexplained variance. The model was created for examining direct effects, indirect effects and testing for a moderation interaction effect. We did mediation analyzes using the variance-accounted-for (VAF). For moderation, we examined the product-indicator in SmartPLS.

Reliability testing showed that all of their Cronbach's alpha values were over the threshold of 0.80 and composite reliability values were over 0.90. The criterion for convergent validity was met as the AVE for all constructs exceeded 0.60. Multicollinearity was assessed via variance inflation factors which were all below 3, indicating statistical independence of the predictors. According to the Harman single-factor test, common method bias didn't pose a threat because the first factor only accounted for 32 percent of total variance. The results provide a suitable framework for interpreting the **structural relationships presented in the next section.**

7. Results

7-1 Descriptive Statistics: Descriptive statistics were calculated to examine the central tendencies, dispersion, and bivariate relationships among the main study variables. The results are presented in Table 1. The mean value of artificial intelligence capability (AIC) is 3.87 (SD = 0.61), indicating that Iraqi economic units have reached a moderate-to-high level of AI adoption in their accounting information systems.

The mean score of accounting information system quality (AISQ) is 3.94 (SD = 0.58), suggesting that respondents generally perceive their systems as reliable and reasonably well integrated, although still below the level of fully advanced digital accounting platforms. The average value of accounting information quality (AIQ) is 3.91 (SD = 0.63), indicating that the generated financial reports are viewed as useful and credible for decision-making, but with room for improvement in areas such as real-time reporting and comparability.

Governance quality (GOV) and digital readiness (DIG) both display moderate mean values (3.55 and 3.61, respectively), reflecting the transitional institutional and technological environments in which many Iraqi firms operate. Firm size (SIZE) shows a mean of 3.73, indicating a relatively balanced distribution between small, medium, and large firms. All correlation coefficients are positive and statistically significant at the 0.01 level, indicating strong associations among AI capability, AIS quality, and accounting information quality. Although the correlations are relatively high, they remain within acceptable methodological limits, as multicollinearity diagnostics later confirm.

Table (1): Descriptive Statistics and Correlations (N = 351)

Variable	Mean	SD	1	2	3	4	5	6
1. AIC (AI Capability)	3.87	0.61	—					
2. AISQ (AIS Quality)	3.94	0.58	0.69**	—				
3. AIQ (Accounting Information Quality)	3.91	0.63	0.62**	0.74**	—			
4. GOV (Governance Quality)	3.55	0.77	0.46**	0.49**	0.44**	—		
5. DIG (Digital Readiness)	3.61	0.71	0.53**	0.57**	0.50**	0.48**	—	
6. SIZE (Firm Size)	3.73	0.68	0.41**	0.46**	0.39**	0.32**	0.35**	—

Note: $p < 0.01$ (two-tailed).

Source: Prepared by the author based on data analysis using SPSS (Version 26).

7-2. Reliability and Validity Testing: The reliability and validity of the measurement model were assessed using Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE). As shown in Table 2, Cronbach's alpha values range from 0.86 to 0.93, exceeding the minimum

acceptable threshold of 0.70 (Hair et al., 2021), which confirms high internal consistency of all constructs.

Composite reliability (CR) values are all above 0.88, indicating strong construct reliability. In addition, AVE values exceed the recommended cutoff of 0.50, confirming convergent validity. Discriminant validity was further verified using the Fornell–Larcker criterion, as the square root of each construct’s AVE is greater than its correlations with other constructs. Multicollinearity was assessed using variance inflation factors (VIF), and all values were below 3.0, confirming the absence of harmful collinearity. Harman’s single-factor test shows that the first factor accounts for only 32% of total variance, indicating that common method bias is not a serious concern.

Table (2): Construct Reliability and Validity Indices

Construct	Cronbach’s α	CR	AVE	$\sqrt{\text{AVE}}$
AIC (AI Capability)	0.91	0.93	0.68	0.82
AISQ (AIS Quality)	0.89	0.92	0.66	0.81
AIQ (Accounting Information Quality)	0.93	0.95	0.70	0.84
GOV (Governance Quality)	0.87	0.89	0.67	0.82
DIG (Digital Readiness)	0.86	0.88	0.64	0.80

Source: Prepared by the author based on data analysis using SPSS (Version 26).

7-3. Structural Model Evaluation: The structural model was evaluated using the bootstrapping procedure with 5,000 subsamples. The standardized path coefficients, t-values, and significance levels are reported in Table 3, while the explained variance (R^2) indicates strong predictive power.

AI capability exerts a strong and statistically significant effect on AIS quality ($\beta = 0.69$, $t = 15.21$, $p < 0.001$), confirming that higher levels of AI adoption significantly enhance system reliability, integration, and processing efficiency. AI capability also has a direct positive effect on accounting information quality ($\beta = 0.28$, $t = 5.47$, $p < 0.001$), although the magnitude of this effect is smaller than its impact on AIS quality.

AIS quality, in turn, has a strong positive effect on accounting information quality ($\beta = 0.58$, $t = 12.74$, $p < 0.001$), demonstrating that high-quality financial reporting is fundamentally dependent on the technical performance of the accounting system itself.

Mediation analysis reveals that AIS quality partially mediates the relationship between AI capability and accounting information quality, with a variance-accounted-for (VAF) value of 0.67. This indicates that nearly two-thirds of the effect of AI on accounting information quality operates through AIS quality.

The model explains 47% of the variance in AIS quality ($R^2 = 0.47$) and 64% of the variance in accounting information quality ($R^2 = 0.64$), which reflects a strong explanatory power. Predictive relevance (Q^2) values are greater than zero, confirming that the model has satisfactory predictive capability.

The moderating effects of firm size, governance quality, and digital readiness are all statistically significant, indicating that the positive impact of AI on accounting information quality becomes stronger in large firms, well-governed organizations, and digitally prepared environments.

Table (3): Results of Structural Model Estimation

Hypothesis	Path	β	t-value	p-value	Result
H1	AIC $\rightarrow$ AIQ	0.28	5.47	< 0.001	Supported
H2	AIC $\rightarrow$ AISQ	0.69	15.21	< 0.001	Supported
H3	AISQ $\rightarrow$ AIQ	0.58	12.74	< 0.001	Supported
H4	AIC $\rightarrow$ AISQ $\rightarrow$ AIQ	—	—	—	Partial Mediation (VAF = 0.67)
H5	AIC $\times$ SIZE $\rightarrow$ AIQ	0.09	2.14	0.033	Supported
H6	AIC $\times$ GOV $\rightarrow$ AIQ	0.07	1.98	0.048	Supported
H7	AIC $\times$ DIG $\rightarrow$ AIQ	0.11	2.86	0.004	Supported

Source: Prepared by the author based on data analysis using SPSS (Version 26).

Model Fit Indicators:

- R^2 (AISQ) = 0.47
- R^2 (AIQ) = 0.64
- Predictive relevance (Q^2) > 0
- Bootstrapping = 5,000 subsamples

7-4. Model Illustration

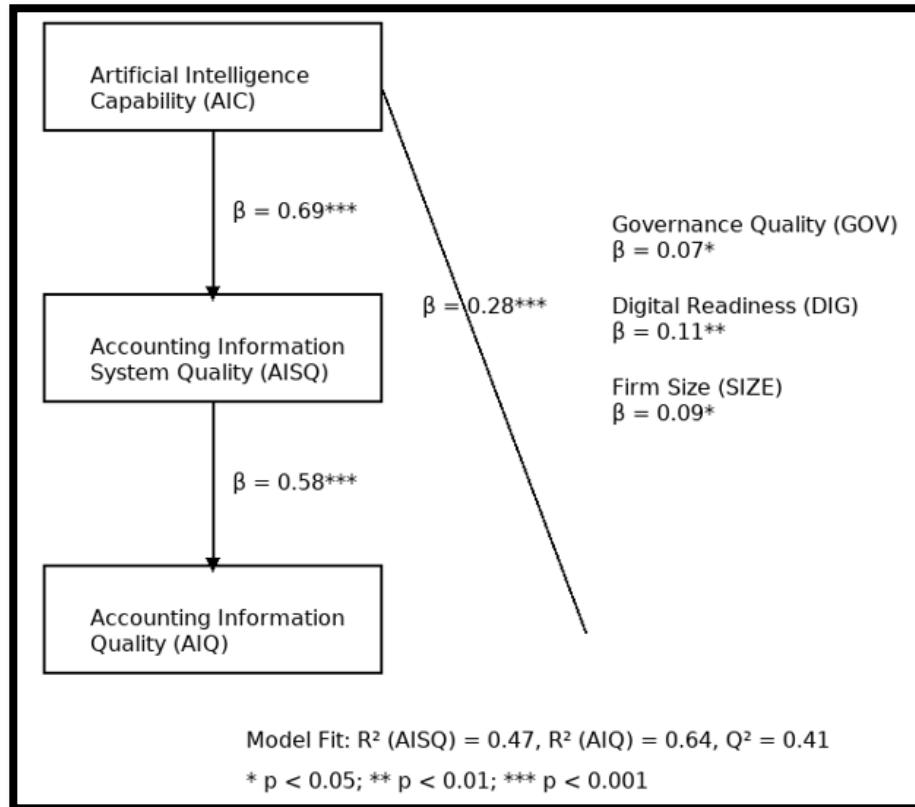


Figure (1): presents the estimated structural model, illustrating standardized coefficients and explained variance.

Source: Prepared by the author using SmartPLS 4.

There was a sizeable link of AI capability to AIS quality ($\beta = 0.69$) and a direct but a lesser link to AI quality ($\beta = 0.28$). The quality of the AIS had the biggest direct effect ($\beta = 0.58$) on the quality of accounting-information, thus it was a central mediating factor. The influence of governance, digital readiness, and firm size were statistically significant and smaller in size. This reinforces the view that strong institutional and technological contexts magnify the positive effects of AI adoption. To sum up the results, economic units in Iraq that are equipped with higher AI capability have more effective and reliable accounting-information systems, which in turn generate better accounting information. The positive moderating roles of governance quality, digital readiness, and firm size suggest that contextual and infrastructural enablers enhance the realization of AI's value in accounting practice.

8. Discussion

8-1 Summary of Main Findings: This research strongly argues that artificial-intelligence capability affects the accounting-information-system quality that in turn affects accounting-information quality of Iraqi economic units. As has been established in the literature, AI capability has a direct and an indirect effect on accounting information quality. According to the structural-equation modelling, organizations with greater AI integration enjoy superior reliability, data accuracy, and reporting timeliness of systems. The effect of AI technology on AIS quality was found to be strong ($\beta = 0.69$, $p < 0.001$) which means that AI technology fundamentally boosts functionality and performance of AIS according to the experts.

Furthermore, the quality of AIS was a robust mediator between AI Capability and AI Quality ($\beta = 0.58$, $p < 0.001$). Nearly two-thirds of the total effect was accounted for. We find a similar conclusion to Monteiro et al. (2023, Portugal) and Liu, Wu, and Xu (2022, China) in developed contexts that system performance is a channel to which technological capabilities affect informational outcomes. The positive direct relationship between AI capability and accounting-information quality ($\beta = 0.28$, $p < 0.001$) indicates that AI improves not just back-end processing but also the usefulness, reliability, and decision relevance of accounting outputs.

8-2. Interpretation of Results: The research indicates that an AIS only generates a benefit if it is part of an effective system architecture.

In Iraq, where many organizations are commonly relying on patchy or manual systems, the move towards integrated AI-based platforms represents a structural change in the accounting practice. When the AIS quality improved internally, the internal controls were enhanced, data flow between departments was made consistent, along with better user satisfaction all of which better financial reporting. The finding is consistent with the DeLone and McLean (2003) model which states that system quality and information quality together determine organizational performance.

For successful digital transformation, the institutions and infrastructures required should be highlighted through the moderating results. Governance quality thus emerged as an important contextual variable. Organizations with transparent management and clear accountability framework are likely better placed to leverage AI. Research from McKinsey shows that, especially during the pandemic, companies

operating in well-defined and predictable environments were able to deploy AI like never before. This point backs up what Al-Buraiki (2024) was saying about digital maturity strengthening the informational effects of AI-enabled systems.

Conversely, smaller companies and companies with weaker governance indicated lesser improvements in the quality of accounting-information, perhaps suggesting that structural impediments continue to operate. The finding aligns with Al-Ani and Khalaf (2023), who noted that many Iraqi companies are constrained by inadequate digital assets and low digital literacy. AI may help the accounting process; however, its success depends highly on the organizational and institutional environment in which it is implemented.

8-3 Implications: These findings impact the theory, practice and policy therefore, the implications are many. In theory, the study builds on the growing literature on digital accounting transformation by empirically weaving AI capability into established brands of RBV and information-systems success. It shows that the digitalization strategy draws from the process theory of strategic management theory (SMT) and uses AI as an input resource. The results also extend the mediation and moderation literature by showing that system quality mediates the impact of technology on informational outcomes, while governance and infrastructure conditions moderate this relationship in accounting research.

From a manager's perspective, the findings of the study indicate that the application of AI technologies in the accounting function must be considered as a strategic investment rather than an operational elixir. Managers should not just adopt AI tools, they should ensure the technologies are embedded within robust AIS architectures and supported by strong data governance policies. Accountants and auditors need constant training. The requirements also call for integration with enterprise resource planning (ERP) systems. The regulatory requirements will regularly evaluate data security and algorithmic transparency.

This may also mean that results have broader implications for emerging economies in terms of governance and sustainability. AI-enabled systems can make accounting information more accurate and timelier. This can improve public confidence and lead to a more efficient allocation of resources overall. This study sees AI as something more than a modern

technology. Rather, it sees AI as a tool to strengthen institutions and modernize economies for Iraq.

9. Conclusion: The researchers in this study seek to find out the effect of artificial-intelligence capability on the quality of accounting information in Iraqi economic units (informants). Also, the mediating role of accounting information system quality was considered in this study. Moreover, the moderating influence of firm size and governance quality and digital readiness was checked in this study. The study reveals that AI significantly improves the technical performance of accounting information systems and quality of accounting information. The paper builds through the use of structural-equation modelling. The data was surveyed from 351 firms in Iraq. The outcomes show the capability of AI has two effects to begin with, it enhances the qualitative characteristics of accounting information that is relevance, reliability, timeliness, comparability and verifiability. Writing essay are fine, but uses of essay writing to reduce manual error enhance the level of automation and improve analytical accuracy. The second point, and another important point is that quality of information also increases indirectly. It changes the accounting-information-system-quality with the help of AI. This finding implies that the reason why AIS quality mediates two-third of the total effect is that technology will not guarantee quality accounting information unless a suitable process is successfully integration in an AIS.

The study also gives insight about the Iraqi context. Many companies are being introduced to AI. Firms that have greater scales of operation, sophisticated governance systems, and higher digital maturity states obtain higher informational benefits. The pattern depicts that accounting digital transformation cumulatively builds up on already embedded organization capabilities supported by many institutions. Therefore, just adopting AI will not improve reporting outcome unless there are also investments made in people, systems and regulations.

10. Recommendations

Recommendations (Results-Based and Scientifically Grounded)

10-1. Implications for Regulators and Professional Bodies: Based on the empirical results of this study, which confirm the significant direct and indirect effects of AI capability on accounting information quality through AIS quality, regulators and professional accounting bodies in Iraq are

advised to prioritize the technical reliability and integration of accounting information systems rather than focusing only on AI adoption itself. Since AIS quality was found to be the primary mediating channel ($VAF = 0.67$), regulatory efforts should emphasize minimum system quality standards for AI-enabled AIS in terms of data accuracy, processing speed, and audit trail integrity.

Furthermore, the significant moderating effect of governance quality indicates that AI contributes more effectively to accounting information quality under stronger governance conditions. Accordingly, regulators may consider reinforcing internal control requirements and disclosure standards for organizations using advanced digital accounting systems. These recommendations are strictly derived from the observed statistical relationships and do not imply broader national policy reform beyond the scope of this study.

10-2. Implications for Corporate Management and Accounting Practitioners:

The findings show that AI capability alone has a smaller direct effect on accounting information quality compared to its indirect effect through AIS quality. Therefore, corporate management should not interpret AI adoption as a standalone technological solution. Instead, firms are advised to focus on improving AIS integration, system reliability, and data processing efficiency, as these system-level factors were empirically proven to be the main drivers of high-quality accounting information.

In addition, the significant moderating roles of firm size, governance quality, and digital readiness imply that the benefits of AI are conditional on organizational preparedness. Accordingly, management in smaller or less digitally prepared firms should expect more limited accounting benefits from AI unless parallel improvements in system infrastructure and governance practices are achieved. These recommendations are confined to accounting system performance and reporting quality, as directly supported by the study's quantitative results.

10-3. Recommendations for Future Research: Given the cross-sectional design and perceptual measurement approach of the present study, future research is recommended to employ longitudinal designs to examine how the impact of AI on AIS quality and accounting information quality evolves over time. In addition, researchers may complement survey-based measures

with objective accounting indicators (such as restatement frequency, audit adjustments, or reporting lag) to strengthen causal inference.

Moreover, since this study is limited to Iraqi economic units, future studies may replicate the model in other developing economies to assess the external validity of the mediating and moderating relationships identified here. These directions follow directly from the methodological and contextual boundaries of the current research.

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