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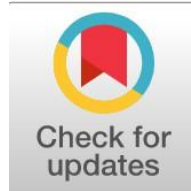
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The Role of Artificial Intelligence Technologies in Enhancing the Quality and Level of Disclosure of Accounting Information in Light of the Requirements of ISO 37001:2025

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Abstract

General Background: Rapid technological advancements are continuously transforming the accounting and financial environment through enhanced data processing and analytical capabilities. **Specific Background:** As business operations grow increasingly complex, conventional control mechanisms often struggle to manage unusual transactions and mitigate operational risks effectively. **Knowledge Gap:** Limited research comprehensively examines how artificial intelligence technologies integrate with modern anti-bribery frameworks to improve financial reporting outcomes. **Aims:** This study examines the role of artificial intelligence technologies in improving accounting information quality and disclosure under the requirements of ISO 37001:2025. **Results:** Findings indicate significant positive correlations and direct effects between artificial intelligence technologies and both accounting information quality and disclosure, with ISO 37001:2025 requirements serving as a partial mediator for information quality and a full mediator for disclosure. **Novelty:** The integration of artificial intelligence analytics with the specific compliance and anti-bribery standards of ISO 37001:2025 within the banking sector provides a unique regulatory and technological synergy. **Implications:** Financial institutions can substantially strengthen their internal controls, transparency, and reporting reliability by systematically deploying intelligent applications alongside anti-bribery management systems.

Key Findings Highlights

Artificial intelligence technologies demonstrate statistically significant positive effects on both accounting information quality and financial disclosure standards.

The requirements of ISO 37001:2025 act as a critical mediator, providing full mediation for accounting disclosure and partial mediation for information quality.

Expanding intelligent applications into predictive analytics and continuous transaction monitoring significantly reinforces organizational control and transparency.

Keywords Artificial Intelligence Technologies, Accounting Information Quality, Accounting Disclosure, ISO 37001:2025, Anti-Bribery

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Introduction

Rapid advances in artificial intelligence technologies have brought tangible changes to the accounting environment through their ability to process large volumes of data, detect patterns and deviations, and analyze transactions more quickly and accurately. Their use is no longer confined to automating routine procedures; it now extends to supporting the preparation and analysis of accounting information and strengthening accounting systems' ability to provide users with more relevant and reliable information.

Accounting information quality and the level of its disclosure are fundamental to effective financial reporting because they support decisions, promote transparency, and reduce information asymmetry. As transactions grow in volume and complexity, traditional control and verification methods have become less capable of addressing the risks associated with unusual transactions or instances of manipulation and concealment. This has increased the need for intelligent technologies capable of continuous analysis and the early detection of abnormal indicators.

ISO 37001:2025 on anti-bribery management systems provides a structured framework for strengthening integrity, control, and bribery risk management through requirements relating to risk assessment, financial and non-financial controls, due diligence, documentation, monitoring, and corrective action. Artificial intelligence technologies can therefore support the implementation of these requirements, particularly in analyzing accounting data, detecting suspicious transactions, and improving information accuracy and disclosure transparency.

Against this background, the present study seeks to examine the role of artificial intelligence technologies in enhancing accounting information quality and disclosure under the requirements of ISO 37001:2025. It identifies how the analytical and control capabilities of these technologies integrate with the requirements of an anti-bribery management system, and examines the implications for accounting information quality and disclosure levels, thereby supporting transparency and strengthening the reliability of the accounting and control environment.

Research Methodology

2-1 Research Problem

The growing use of artificial intelligence technologies in accounting systems has increased the capacity to process and analyze data and detect unusual patterns. However, the practical benefits of these technologies for accounting information quality and disclosure levels remain linked to their integration with control frameworks that support transparency and integrity and reduce the risks of manipulation and bribery. In this context, the requirements of ISO 37001:2025 offer a framework that can strengthen the effectiveness of controls and control procedures, raising the question of how far artificial intelligence technologies can support these requirements and how this is reflected in accounting information quality and disclosure.

Accordingly, the research problem can be expressed through the following main question:

What role do artificial intelligence technologies play in enhancing accounting information quality and disclosure under the requirements of ISO 37001:2025?

The following questions arise from this main question:

- To what extent do artificial intelligence technologies contribute to enhancing accounting information quality?
- To what extent do artificial intelligence technologies contribute to improving the level of accounting disclosure?
- To what extent do artificial intelligence technologies support the implementation of the requirements of ISO 37001:2025?
- To what extent does the integration of artificial intelligence technologies and the requirements of ISO 37001:2025 affect accounting information quality and disclosure?

2-2 Significance of the Study

The significance of this study lies in its examination of a contemporary topic that brings together artificial intelligence technologies, accounting information quality, and disclosure within a control framework associated with the requirements of ISO 37001:2025. This is particularly relevant given the growing need for accounting systems that can better analyze data, detect unusual transactions, and enhance transparency and reliability. The study also clarifies the potential use of intelligent technologies to support anti-bribery controls and procedures and reduce manipulation risks, thereby strengthening confidence in the accounting information and disclosures issued by economic entities and keeping pace with recent developments in the accounting and control environment.

2-3 Research Objectives

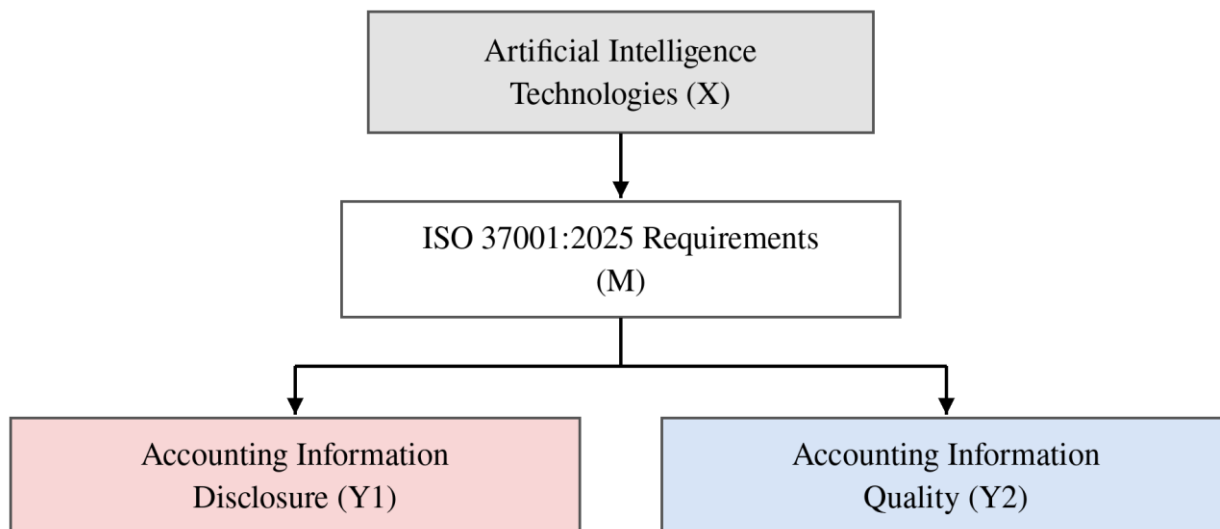
- The study seeks to achieve the following objectives:
- Explain the nature of the use of artificial intelligence technologies in the accounting environment and their connection to information processing and analysis.
- Identify the role of artificial intelligence technologies in enhancing accounting information quality.
- Explain the contribution of artificial intelligence technologies to improving the level of accounting information disclosure.
- Clarify the requirements of ISO 37001:2025 that relate to controls, control procedures, and accounting information.
- Determine the extent to which artificial intelligence technologies support the implementation of ISO 37001:2025 requirements and the implications for accounting information quality and disclosure.

2-4 Hypothesized Research Model

Based on the research problem and objectives, the hypothesized model describes the relationship between artificial intelligence

technologies as the independent variable and accounting information quality and disclosure as the two dependent variables . The requirements of ISO 37001:2025 serve as a mediating variable, reflecting the control and organizational role through which artificial intelligence technologies can enhance information quality and disclosure transparency .

The model can be represented as follows:



2-5 Research Hypotheses

Based on the research problem, objectives, and proposed hypothesized model, the research hypotheses were formulated as follows:

First main hypothesis: “There is a statistically significant correlation between artificial intelligence technologies and accounting information quality and disclosure .”

The following two sub-hypotheses are derived from this hypothesis:

- There is a statistically significant correlation between artificial intelligence technologies and accounting information quality .
- There is a statistically significant correlation between artificial intelligence technologies and accounting information disclosure .

Second main hypothesis: “Artificial intelligence technologies have a statistically significant effect on accounting information quality and disclosure .”

The following two sub-hypotheses are derived from this hypothesis:

- Artificial intelligence technologies have a statistically significant effect on accounting information quality .
- Artificial intelligence technologies have a statistically significant effect on accounting information disclosure .

Third main hypothesis: “Artificial intelligence technologies have a statistically significant effect on the implementation of ISO 37001:2025 requirements .”

Fourth main hypothesis: “The implementation of ISO 37001:2025 requirements has a statistically significant effect on accounting information quality and disclosure .”

The following two sub-hypotheses are derived from this hypothesis:

- The implementation of ISO 37001:2025 requirements has a statistically significant effect on accounting information quality .
- The implementation of ISO 37001:2025 requirements has a statistically significant effect on accounting information disclosure .

Fifth main hypothesis:

The requirements of ISO 37001:2025 play a statistically significant mediating role in the relationship between artificial intelligence technologies and both accounting information quality and disclosure .

2-6 Research Population and Sample

The research population comprised employees of several banks listed on the Iraq Stock Exchange and operating in the Kurdistan Region of Iraq: Erbil Bank for Investment and Finance, Kurdistan International Islamic Bank for Investment and Development, and Cihan Bank for Islamic Investment and Finance . These banks were selected because they provide a suitable setting for studying the research variables and are subject to disclosure and control requirements as joint-stock companies listed on the Iraq Stock Exchange .

The study used purposive sampling to select respondents from the accounting and finance, internal audit, control and compliance, risk management, information systems, and information technology departments of the sampled banks . Their duties are directly related to preparing and disclosing accounting information, using modern technologies, and implementing the

controls and procedures relevant to the research topic .

2-7 Research Instrument

The study used a questionnaire as its main data collection instrument . It was designed based on the literature and previous studies relevant to the research variables, in line with the banking environment and the requirements of ISO 37001:2025 . The questionnaire comprised items grouped into dimensions representing artificial intelligence technologies, ISO 37001:2025 requirements, accounting information quality, and accounting information disclosure .

A five-point Likert scale was used to measure respondents' answers, ranging from (1) strongly disagree to (5) strongly agree . This allows respondents' attitudes toward the research items and variables to be measured quantitatively and subjected to statistical analysis . The questionnaire is also submitted to reviewers and specialists in accounting, auditing, management, and information systems to assess the wording of its items and their suitability for the research objectives and variables before its final form is adopted .

2-8 Statistical Methods

The study employed statistical methods suited to the data and research hypotheses, using appropriate statistical software . The principal methods were as follows:

- Cronbach's alpha: To measure the reliability of the research instrument and the internal consistency of the questionnaire items .
- Mean and standard deviation: To describe and assess respondents' answers concerning the research variables and their dimensions .
- Coefficient of variation and relative importance: To determine the degree of homogeneity and rank items and dimensions by importance .
- Pearson's correlation coefficient: To test the strength and direction of correlations among the research variables .
- Regression analysis: To test the effects of artificial intelligence technologies and ISO 37001:2025 requirements on accounting information quality and disclosure .
- Coefficient of determination (R^2) and F- and t-tests: To measure the explanatory power of the models and test the significance of the effects .
- Path analysis and indirect-effect testing (mediation analysis): To measure the mediating role of ISO 37001:2025 requirements in the relationship between artificial intelligence technologies and both accounting information quality and disclosure .

A statistical significance level of (0 . 05) is adopted to assess the significance of the results and test the research hypotheses .

3 . Previous Studies

3-1 Artificial Intelligence and Accounting Information Quality

1. Awwad et al . (2025)

“Artificial Intelligence and the Quality of Accounting Information in Palestinian Industrial Companies”

This study aimed to determine the effect of adopting artificial intelligence technologies expert systems, machine learning, neural networks, and algorithms on improving accounting information quality, particularly relevance, faithful representation, and verifiability . It adopted a descriptive analytical approach and covered a sample of (326) employees from 13 industrial companies listed on the Palestine Exchange . The results showed a statistically significant positive effect of artificial intelligence technologies on accounting information quality, as well as improvements in the accuracy of results, the speed of data processing, and the detection of certain fraudulent practices in financial statements . This study informs the present research by confirming the direct relationship between the use of artificial intelligence technologies and the qualitative characteristics of accounting information .

2. Johri (2025)

“Impact of Artificial Intelligence on the Performance and Quality of Accounting Information Systems and Accuracy of Financial Data Reporting”

This study examined the role of artificial intelligence in improving the quality of accounting information systems and the accuracy of financial data reporting, while investigating the relationship between accounting information system quality, the internal control system, and artificial intelligence . It used data from (566) accountants and financial officers in India and employed partial least squares structural equation modeling (PLS-SEM) to test the proposed model . The results showed that artificial intelligence has a significant positive effect on accounting information system quality and improves the accuracy of financial reports and data . They also highlighted the importance of relevance, accuracy, and timeliness in determining accounting system quality . These findings align with the present study's view of artificial intelligence technologies as a factor that can enhance the quality and reliability of accounting information .

Both studies clearly agree on the positive role of artificial intelligence technologies in developing accounting data processing and improving its accuracy, relevance, and reliability . However, they focused mainly on information quality or accounting information systems without examining this role within an integrated framework encompassing information quality, disclosure, and the requirements of the ISO 37001:2025 anti-bribery management system, which the present study seeks to address .

3-2 Artificial Intelligence, Disclosure, and Transparency

1. Yang and Zhou (2025)

Entitled “Artificial Intelligence and the Quality of Corporate Accounting Information Disclosure,” this study aimed to test the effect of adopting artificial intelligence technologies on the quality of corporate accounting information disclosure . It used data from companies listed on China's Shenzhen Stock Exchange during 2014–2023 . The results showed that adopting artificial intelligence significantly improves accounting disclosure quality, with a more pronounced effect among small and medium-sized enterprises and high-technology companies . The study also found that improvements in the business environment and increases in corporate growth potential strengthen the positive effect of artificial intelligence on disclosure quality . This study informs the present research by confirming the capacity of artificial intelligence technologies to enhance the quality of disclosed

information and reduce shortcomings in the accounting disclosure process .

2. Alslaibi et al . (2026)

“Artificial Intelligence and Financial Statement Transparency: The Moderating Role of Accounting Information Systems’ Reliability”

This study examined the effects of artificial intelligence technologies—expert systems, machine learning, and neural networks—on financial statement transparency through voluntary disclosure, while testing the moderating role of accounting information system reliability . It adopted a quantitative cross-sectional approach, collected data from (375) respondents using a structured questionnaire, and employed partial least squares structural equation modeling (PLS-SEM) . The results showed a positive effect of artificial intelligence technologies on voluntary disclosure and financial transparency, with neural networks exerting the strongest influence . They also demonstrated the importance of accounting information system reliability in strengthening this relationship . These findings align with the present study’s focus on linking intelligent technologies to improved disclosure and transparency in the accounting environment .

Both studies show that the use of artificial intelligence technologies extends beyond improving accounting data processing to enhancing disclosure quality and financial information transparency . However, neither examined this role within the requirements of the ISO 37001:2025 anti-bribery management system, an area the present study seeks to cover .

3-3 Anti-Bribery Systems, Compliance, and Reporting Quality

1. Peltier-Rivest (2021)

“Corruption at Rolls-Royce: Can It Happen Again”

This study aimed to analyze the corruption case at Rolls-Royce, its global anti-bribery and corruption manual, and its annual report to assess the adequacy of its corruption prevention strategies and procedures . It adopted a legal case study approach based on the deferred prosecution agreement with the United Kingdom’s Serious Fraud Office and used ISO 37001 as a theoretical framework for analysis . The findings identified shortcomings in several anti-bribery procedures relative to the standard’s requirements, particularly measurable objectives, training, the independence of the compliance function, due diligence, and reporting and investigation mechanisms . The study also emphasized the importance of anti-bribery systems in strengthening internal controls and reducing opportunities for corruption . It informs the present research by explaining the control role of ISO 37001 requirements and their potential to create a more disciplined and reliable environment for information and reporting .

2 . Githaiga (2025)

“Corporate Anti-Corruption Disclosure and Earnings Management: Evidence from East Africa Community”

This study aimed to test the effect of corporate anti-corruption disclosure on earnings management among listed companies in East African Community countries . The sample comprised (58) listed companies during 2013–2022 . The study used an anti-corruption disclosure checklist based on the literature and GRI 205, and applied ordinary least squares to test its hypotheses . The results showed a low level of anti-corruption disclosure among the sampled companies and an inverse relationship between anti-corruption disclosure and earnings management . This suggests that greater transparency and disclosure relating to anti-corruption can help limit practices that undermine financial reporting reliability . The study informs the present research by supporting the link between anti-corruption practices, transparency, and the quality of accounting information and reports .

Both studies show that effective anti-bribery and anti-corruption systems extend beyond legal or ethical considerations to strengthen internal controls, compliance, and transparency and limit practices that may undermine financial reporting reliability . However, they did not examine the role of artificial intelligence technologies in supporting these systems and their combined implications for accounting information quality and disclosure, an area the present study seeks to cover .

3-4 Research Gap

The review of previous studies shows that most examined the relationship between artificial intelligence technologies and accounting information quality, or disclosure and transparency, separately . Other studies focused on anti-bribery and compliance without integrating them with intelligent applications in the accounting environment . The research gap therefore lies in the limited number of studies that have comprehensively examined the role of artificial intelligence technologies in enhancing accounting information quality and disclosure under the requirements of ISO 37001:2025 . This is the gap the present study seeks to address .

Here, we explain what previous studies contributed and what they did not address .

4 . Theoretical Framework

1-4 Artificial Intelligence Technologies in the Accounting Environment

The accounting environment has increasingly shifted toward advanced digital technologies, particularly artificial intelligence, because of their capacity to process and analyze data, automate repetitive tasks, and generate information that supports decision-making . This has broadened their use in accounting and finance, moving their role beyond routine procedures to supporting analysis and control and providing more useful insights for information users . IFAC notes that artificial intelligence enables accounting and finance professionals to streamline repetitive processes and focus more on analysis and the provision of decision-support information . (IFAC, 2023: 60)

1-1-4 The Concept of Artificial Intelligence

Artificial intelligence is a broad concept associated with the capacity of machine-based systems to process inputs and draw inferences from them to generate predictions, recommendations, decisions, or content . The Organisation for Economic Co-operation and Development (OECD) defines an artificial intelligence system as a machine-based system that, for explicit or

implicit objectives, infers from the inputs it receives how to generate outputs that can influence physical or virtual environments . (OECD, 2024: 128) . The U . S . National Institute of Standards and Technology (NIST) also defines it as a machine-based system capable, for specified objectives, of making predictions, recommendations, or decisions that affect real or virtual environments . (Booth et al . , 2024: 22) . Accordingly, artificial intelligence in the accounting environment can be understood as a set of technologies and systems capable of analyzing accounting data, learning from its patterns, and deriving findings and predictions that improve information processing and support decisions and control functions .

2-1-4 Artificial Intelligence Technologies Relevant to Accounting

Various artificial intelligence technologies can be used in the accounting environment, depending on the nature of the data and the operations to be performed . These technologies automate processing, analyze large volumes of data, detect unusual patterns, and support prediction and decision-making . Professional literature points to the growing use of machine learning, natural language processing, and intelligent analytics in accounting and auditing because they enable the processing of structured and unstructured data and improve the efficiency of financial and control procedures . (Qatawneh, 2025: 1398) . The principal technologies relevant to accounting include the following:

1. **Machine Learning:** Uses algorithms that learn from historical data to detect patterns and make classifications and predictions . In accounting, it can be used to classify accounts and transactions, forecast cash flows, assess risks, and detect abnormal transactions . Unsupervised learning can also identify anomalies in large datasets . (Chen et al . , 2025: 45–55)
2. **Natural Language Processing (NLP):** Enables systems to analyze and understand texts and human language . It can be used to read contracts, reports, and financial documents, extract data and information from them, and automatically analyze disclosures and textual notes . Professional applications have shown the use of natural language processing alongside machine learning to analyze documents and structured and unstructured information for accounting, auditing, and risk identification .
3. **Deep Learning and Neural Networks:** Represent more advanced machine learning technologies, distinguished by their ability to recognize complex relationships and patterns in data . They can help detect fraud indicators, analyze unusual transaction patterns, and support financial forecasting when working with large and varied databases . (Wang et al . , 2025: 242)
4. **Anomaly Detection and Predictive Analytics:** Identify transactions or values that deviate from established patterns, making them important for detecting errors, suspicious transactions, and indicators of fraud and bribery . They are also used to forecast cash flows, financial results, and future financial risks . Recent professional applications show that machine learning algorithms detect anomalies, while predictive models forecast cash flows and credit risks . (Fulcer et al . , 2025: 145)
5. **Generative AI:** Uses models capable of creating and analyzing content based on the data on which they were trained . It can help summarize financial reports, analyze documents and policies, draft reports and explanations, and respond to accounting data queries . However, its use requires appropriate controls to verify output accuracy, protect data confidentiality, and preserve accountants' professional judgment . (Emett et al . , 2025: 128)

Thus, the importance of artificial intelligence technologies in accounting extends beyond routine automation to data analysis, risk detection, more accurate processing, and stronger control capabilities . This gives them direct relevance to accounting information quality and disclosure and to the control and compliance requirements addressed in the present study .

3-1-4 Artificial Intelligence Technologies and Accounting Information Quality and Disclosure

Artificial intelligence technologies have become influential tools in developing the accounting environment . Their importance extends beyond automating procedures to improving data processing, analysis, and verification, with implications for the qualitative characteristics of accounting information and disclosure quality . Awwad et al . (2025: 1418) found that the use of expert systems, machine learning, neural networks, and algorithms positively affects accounting information quality characteristics, particularly relevance, faithful representation, and verifiability, while also producing more accurate, timely, and reliable results .

The role of artificial intelligence technologies in enhancing accounting information quality is evident in their ability to process large volumes of data continuously, reduce errors associated with manual processing, detect unusual relationships and patterns, and provide timely information . In this regard, Johri (2025: 1096) found that artificial intelligence positively affects accounting information system quality and the accuracy of financial information reporting, while highlighting the importance of relevance, accuracy, and timeliness in determining accounting system quality .

The effects of these technologies extend beyond the quality of the information produced to accounting disclosure and transparency . Intelligent analytical tools help examine the data and information underlying reports, identify omissions or inconsistencies, and improve the accuracy and timeliness of disclosed information . Yang & Zhou (2025: 85) found that adopting artificial intelligence significantly enhances the quality of corporate accounting information disclosure, confirming that technological development can support improvements in a company's information environment .

Artificial intelligence technologies can also support financial reporting transparency by improving transaction analysis, enabling the early detection of unusual transactions, and providing clearer information to report users . Alslaibi et al . (2026: 19) demonstrated the importance of artificial intelligence technologies in enhancing financial statement transparency, while emphasizing that accounting information system reliability is an important factor in the strength of this relationship .

The researcher considers that artificial intelligence technologies contribute to accounting information quality and disclosure by increasing processing accuracy, improving timeliness and relevance, strengthening verifiability, detecting unusual transactions, and enhancing disclosure transparency . Achieving these benefits, however, requires control and organizational safeguards that ensure data reliability and the sound use of technologies . This provides the basis for linking artificial intelligence with the requirements of ISO 37001:2025 in the present study .

5 . Accounting Information Quality and Disclosure

Accounting information is the main link between an economic entity and the users of its reports, as different parties rely on it to assess performance and financial position and make economic decisions . Its effectiveness does not arise from availability alone, but depends on characteristics that make it useful and able to represent economic reality appropriately, as well as on its

presentation and disclosure in an appropriate amount and at the right time . Accounting information quality is associated with characteristics that enable information to meet users' needs and fulfill the purpose for which it was prepared . (Boumakhlof & Kebieche, 2024: 721)

1-5 The Concept of Accounting Information Quality

Accounting information quality refers to the extent to which financial information meets users' needs and supports their economic decisions through qualitative characteristics that make it useful for decision-making . The fundamental characteristics are relevance and faithful representation, while usefulness is enhanced by comparability, verifiability, timeliness, and understandability . These characteristics improve information's ability to represent economic phenomena and provide a more appropriate basis for decisions . This is consistent with the Conceptual Framework for Financial Reporting, which emphasizes that useful financial information must be relevant and faithfully represented, and that its usefulness is enhanced by comparability, verifiability, timeliness, and understandability . (IFRS Foundation, 2021: A25) .

Accordingly, accounting information quality is operationally defined in the present study as the ability of accounting information to meet users' needs through relevance and faithful representation, enhanced by comparability, verifiability, timeliness, and understandability, thereby supporting decision-making and increasing the reliability of accounting reports .

2-5 Characteristics of Accounting Information Quality

Accounting information quality is a fundamental basis for an accounting system's effectiveness in achieving its objectives, particularly amid rapid changes in the business environment and the growing need for accurate and reliable information to support economic decisions . Achieving this quality requires a set of fundamental qualitative characteristics that ensure information is suitable for use by the parties concerned . Table (1) presents the qualitative characteristics of financial information according to the IFRS Foundation's Conceptual Framework for Financial Reporting and explains how each characteristic affects information's usefulness for decision-making .

Table (1): Qualitative Characteristics of Accounting Information Quality

Classification	Characteristic	Definition	Effect on Decisions
Fundamental	Relevance	The ability of financial information to make a difference to decisions by having predictive value, confirmatory value, or both .	Helps users predict future outcomes and assess previous estimates .
Fundamental	Faithful Representation	Information should represent the substance of the economic phenomenon it purports to represent and be complete, neutral, and free from error to the greatest extent possible .	Strengthens reliance on information in decision-making .
Enhancing	Comparability	Enabling users to identify and understand similarities and differences in information across entities or periods .	Helps compare performance over time and across economic entities .
Enhancing	Verifiability	The ability of knowledgeable and independent observers to reach a degree of agreement that information faithfully represents an economic phenomenon .	Strengthens confidence in the objectivity of information and the bases used in its preparation .
Enhancing	Timeliness	Making information available to decision-makers while it can still influence their decisions .	Increases information's usefulness and its ability to influence decisions at the appropriate time .
Enhancing	Understandability	Classifying, characterizing, and presenting information clearly and concisely to facilitate understanding .	Helps users interpret information and use it in decision-making .

Source: Prepared by the researcher based on (IFRS Foundation, 2021: A25–30) .

3-5 The Concept of Accounting Disclosure

Accounting disclosure is one of the principal functions of an accounting system . It is the means through which financial and non-financial information is communicated to report users, helping them understand the economic entity's circumstances and make appropriate decisions . Differences in users' needs and interests have led to diverse views of disclosure and the absence of a single definition . (Wolk et al . , 2016: 101)

Hendriksen (1982: 405) describes disclosure as the presentation of necessary information about an economic entity to support the proper functioning of efficient capital markets . Kieso (1998: 1342) considers disclosure to involve presenting material facts that may affect information users' assessments and decisions . Choi (2005: 1) also views disclosure as the process of communicating accounting measurement information to internal and external users .

The researcher views accounting disclosure as the process of presenting and communicating material and relevant information about an economic entity to its users in a timely, clear, and non-misleading manner, helping them assess performance and make economic decisions .

4-5 Characteristics of Effective Accounting Disclosure

Effective accounting disclosure is not achieved simply by providing a large amount of information. It depends on the quality of the information disclosed and its ability to meet users' needs and support appropriate decisions. Disclosure should also be adequate, fair, and comprehensive, with comprehensiveness focusing on the quality and significance of information rather than its volume alone. Accordingly, the main characteristics of effective accounting disclosure are as follows: (Al-Mohareb et al., 2025: 1446), (Matar, 2013: 17)

- a. **Relevance:** Disclosed information should relate to users' decisions and improve their understanding of information, help them achieve their objectives, and influence their economic decisions.
- b. **Materiality:** Information should be disclosed when its omission or exclusion could affect users' economic decisions. Materiality therefore determines the amount and nature of the information that should be disclosed.
- c. **Timeliness:** Information should be available to users while it can still influence their decisions. Delays in disclosure may reduce its usefulness and affect the fairness of access among different parties.
- d. **Fairness:** Relevant information should be provided equitably to different stakeholders, helping reduce information asymmetry and enhance the fairness and efficiency of financial markets.
- e. **Disclosure Quality:** Information should help stakeholders develop an adequate understanding of the economic entity's performance in support of their economic decisions.
- f. **Credibility:** Disclosed information must be trustworthy and dependable for users, as credibility is a fundamental condition for effective disclosure. (Alharasis et al., 2024: 3)

Effective accounting disclosure therefore combines relevance, materiality, timeliness, fair access, quality, and credibility, enhancing information's usefulness for decision-making and increasing transparency and confidence in accounting reports.

6. ISO 37001:2025

ISO 37001:2025 is an international framework for anti-bribery management systems. It aims to help economic entities establish an integrated system to prevent, detect, and respond to bribery, while supporting compliance with relevant legislation and requirements. The 2025 version is the standard's second edition, issued in February 2025 to replace ISO 37001:2016. It applies to economic entities of all sizes across the public, private, and not-for-profit sectors. (ISO, 2025: 3)

The standard is based on requirements and procedures covering an anti-bribery policy, leadership commitment, bribery risk assessment, due diligence, financial and non-financial controls, training, reporting, monitoring and investigation, corrective action, and continual improvement. These requirements are significant in the accounting environment because they provide a control framework that helps regulate transactions, promote integrity and transparency, and reduce the risks of unlawful practices. This makes the standard suitable for examining how artificial intelligence technologies support accounting information quality and disclosure.

1-6 Objectives of ISO 37001:2025

ISO 37001:2025 aims to establish an institutional framework that helps economic entities prevent, detect, and respond to bribery by promoting a culture of integrity and ethical conduct and providing the controls needed to manage bribery risks. It also supports compliance, protects the economic entity's reputation, and strengthens stakeholder confidence. (ISO, 2025: 3–4). Veselovska (2025: 1) indicates that anti-bribery management systems enhance accountability, transparency, and integrity, while supporting an ethical environment and increasing the economic entity's credibility among stakeholders. Peltier-Rivest (2021: 433) also emphasizes that adopting the ISO 37001 framework provides preventive practices that help reduce corruption and improve internal control effectiveness.

2-6 Main Requirements of ISO 37001:2025

ISO 37001:2025 comprises interrelated requirements intended to establish an effective bribery risk management system. Its implementation extends beyond setting an anti-bribery policy to identifying risks, controls, responsibilities, and mechanisms for monitoring and improvement. The principal requirements can be summarized as follows: (ISO, 2025, Clauses 4–10), (Veselovska, 2025: 3)

1. **Context of the Organization and Bribery Risk Assessment:** The standard requires an understanding of the organization's internal and external environment and the needs of relevant parties, the definition of the anti-bribery management system's scope, and periodic bribery risk assessments proportionate to the nature, scale, and complexity of operations.
2. **Leadership and Anti-Bribery Culture:** The standard emphasizes top management's commitment and role in establishing a culture of integrity and ethical conduct, adopting a clear anti-bribery policy, and defining responsibilities, authorities, and the function overseeing the anti-bribery system. The 2025 edition explicitly strengthened the concept of anti-bribery culture within its leadership requirements.
3. **Planning:** This requires identifying risks and opportunities associated with the anti-bribery system, setting objectives that can be monitored, and planning the actions and changes needed to achieve them, ensuring that anti-bribery measures are proportionate to the risks facing the organization.
4. **Support, Awareness, and Training:** This includes providing the resources and competencies needed to implement the system, raising employees' awareness of the anti-bribery policy and their responsibilities, delivering appropriate training to employees and relevant parties, and maintaining the documented information needed to demonstrate implementation. Applied studies show that continuous training and monitoring are important requirements for effective anti-bribery management systems.
5. **Operational Controls:** This is the area most closely related to the present study. It includes due diligence, financial and non-financial controls, controls over gifts, hospitality, donations, and similar benefits, anti-bribery commitments, raising concerns, and investigating and addressing bribery. ISO emphasizes that due diligence, financial and non-financial controls, and reporting mechanisms are core components of an anti-bribery system.

6. **Performance Evaluation:** The standard requires monitoring, measuring, and analyzing the effectiveness of the anti-bribery system, as well as internal audits, management reviews, and reviews by the anti-bribery function to verify the system's efficiency and ability to achieve its objectives .

7. **Continual Improvement:** This requires addressing nonconformities, taking corrective action, and continually improving the suitability, adequacy, and effectiveness of the anti-bribery management system, allowing controls to evolve in response to changes in risks and operations . (Nwaeze & Nwaeze, 2026: 12)

These requirements are particularly important in the accounting environment, especially bribery risk assessment, due diligence, financial controls, monitoring, reporting, and internal auditing, because they relate directly to financial data and transactions . This provides scope for artificial intelligence technologies to support their implementation and improve their capacity to detect unusual transactions and potential risks .

6-3 The Role of Artificial Intelligence Technologies in Supporting ISO 37001:2025 Requirements

Artificial intelligence technologies can support the implementation of ISO 37001:2025 requirements through their ability to analyze large volumes of data and transactions, detect unusual patterns, and identify risk indicators more quickly and continuously . This role is particularly important in banking, where artificial intelligence and machine learning are used in know-your-customer and due diligence procedures, fraud and manipulation detection, and financial transaction monitoring . These applications clearly overlap with several control requirements of anti-bribery systems . (Turksen et al . , 2024: 361) .

Artificial intelligence contributes particularly to bribery risk assessment and due diligence . Machine learning algorithms can analyze historical data and the behavior of related parties and classify transactions by risk level, helping direct control procedures toward the most exposed cases . Odilla (2024: 2) showed that artificial intelligence tools used to combat corruption rely on machine learning and risk assessment methodologies to predict the risks of corrupt behavior and contract fraud and support decision-making . This is consistent with ISO 37001:2025 requirements to conduct and document due diligence on related parties, particularly in high-risk cases . (Nwaeze & Nwaeze, 2026: 8) .

Artificial intelligence technologies can also support financial and non-financial controls by continuously monitoring transactions, linking data from multiple sources, and detecting transactions that deviate from established patterns or contain indicators requiring examination . Turksen et al . (2024: 362) explain that artificial intelligence can help automate compliance processes and detect suspicious activities, provided that data quality and model transparency and interpretability are maintained . This is especially important given ISO 37001 requirements for controls over gifts, hospitality, facilitation payments, donations, and political contributions, as these transactions represent potential areas of bribery risk . (Nwaeze & Nwaeze, 2026: 19) .

Artificial intelligence also contributes to monitoring, early detection, and reporting . Predictive analytical tools help generate warning indicators for high-risk cases and direct the attention of compliance and internal audit functions to them . ISO 37001:2025 sets out an interconnected preventive system encompassing bribery risk assessment, due diligence, financial controls, leadership commitment, the independence of the anti-bribery function, and whistleblower protection . (Nwaeze & Nwaeze, 2026: 12) . Artificial intelligence can therefore be viewed as a supporting tool that increases the speed and effectiveness of implementing these requirements, rather than replacing professional judgment or human responsibility .

Integrating artificial intelligence technologies with ISO 37001:2025 requirements can support a shift from retrospective control to proactive control based on risk analysis and early detection . Artificial intelligence applications must be subject to transparency, accountability, and human oversight to avoid risks arising from bias or poor data quality . Recent literature emphasizes that artificial intelligence tools for combating corruption may produce unfair outcomes when the data or models used are unsuitable . (Odilla, 2024: 3) .

7- Empirical Analysis and Research Results

The empirical analysis extends the study's theoretical framework by testing the hypothesized relationships among artificial intelligence technologies, ISO 37001:2025 requirements, accounting information quality, and disclosure in the banking environment . It draws on questionnaire data collected from the sample and analyzes them statistically to describe the research variables, test the hypotheses, and establish findings that identify the relationships and effects among the variables .

1-7 Description of the Research Sample

The study used a purposive sample of employees at Erbil Bank for Investment and Finance, Kurdistan International Islamic Bank, and Cihan Bank for Islamic Investment and Finance, all of which are listed on the Iraq Stock Exchange . The sample included staff in departments directly related to the research topic, particularly accounting and finance, internal audit, control and compliance, risk management, information systems, and information technology, because their knowledge and experience are appropriate for answering the questionnaire items .

To understand the nature of the sample and its suitability for testing the research variables, respondents' characteristics are presented through demographic and employment indicators, including gender, age, educational attainment, specialization, job title, and years of experience . This helps provide a clear picture of respondents' general characteristics and the relevance of their experience to the research topic .

Table (2): Description of Respondents' Demographic Variables

N o .	Variable	Category	Frequency	Percentage
1	Gender	Male	32	43 . 84%
		Female	41	56 . 16%
	Total		73	100%
2	Age	20–30 years	5	6 . 85%
		31–40 years	27	36 . 99%

N o .	Variable	Category	Frequency	Percentage
		41–50 years	30	41 . 10%
		Over 50 years	11	15 . 07%
	Total		73	100%
3	Educational Qualification	Diploma	15	20 . 55%
		Bachelor's degree	53	72 . 60%
		Master's degree	3	4 . 11%
		Doctorate	2	2 . 74%
	Total		73	100%
4	Specialization	Accounting	31	42 . 47%
		Business Administration	13	17 . 81%
		Economics	10	13 . 70%
		Finance and Banking	19	26 . 03%
	Total		73	100%
5	Length of Service	3–5 years	6	8 . 22%
		6–10 years	12	16 . 44%
		11–15 years	15	20 . 55%
		16–20 years	12	16 . 44%
		Over 20 years	28	38 . 36%
	Total		73	100%
6	Job Position	Manager	3	4 . 11%
		Department Head	5	6 . 85%
		Division Manager	8	10 . 96%
		Accountant	26	35 . 62%
		Auditor	31	42 . 47%
	Total		73	100%

Source: Prepared by the researcher based on questionnaire data .

2-7 Testing the Validity and Reliability of the Research Instrument

To ensure that the questionnaire was suitable for measuring the research variables, its validity and reliability were assessed before conducting the statistical tests of the research hypotheses . Face and content validity were assessed by submitting the questionnaire to reviewers specializing in accounting, auditing, and financial management to ensure that the items were clear and appropriate for the variables they were intended to measure . The necessary revisions were made in light of their comments .

Internal consistency validity was also assessed by calculating the correlations between each item and the total score of the variable to which it belonged . Positive and statistically significant correlations indicate that the items are consistent with the variables they are intended to measure .

The reliability of the research instrument is tested using Cronbach's alpha for each questionnaire variable and for the instrument as a whole . A reliability coefficient of (0 . 70) or above is considered statistically acceptable, while higher values indicate good internal consistency among the scale items .

Table (3): Results of Research Instrument Reliability Testing Using Cronbach's Alpha

Variable	Number of Items	Cronbach's Alpha	Reliability Level
Artificial Intelligence Technologies	8	0 . 846	High
ISO 37001:2025 Requirements	10	0 . 891	High
Accounting Information Quality	8	0 . 863	High
Accounting Disclosure	8	0 . 828	High
Questionnaire as a Whole	34	0 . 924	Very High

Source: Prepared by the researcher based on the statistical analysis results .

Table (3) shows that Cronbach's alpha coefficients for the research variables ranged from (0 . 828–0 . 891), while the reliability coefficient for the questionnaire as a whole was (0 . 924) . These values exceed the statistically acceptable threshold of (0 . 70), indicating a high level of internal consistency and reliability and the instrument's suitability for statistical analysis and testing the research hypotheses .

3-7 Description and Assessment of the Artificial Intelligence Technologies Variable

To assess the level of artificial intelligence adoption in the sampled banks, respondents' answers to this variable's items were analyzed using the mean, standard deviation, and relative weight, along with a t-test against the hypothetical mean of (3) . Table (4) below presents the response level for each item, helping assess the current use of artificial intelligence technologies and identify areas with high or low levels of implementation .

Table (4): Descriptive Statistics and Hypothetical Mean Test Results for the Artificial Intelligence Technologies Variable

Code	Item	Mean	Standard Deviation	Relative Weight	t-value	Sig .	Response Level
X1	The bank uses artificial intelligence technologies to process and analyze financial and accounting data .	4 . 09	0 . 80	81 . 80%	11 . 64	0 . 000	High
X2	The intelligent systems used by the bank help analyze large volumes of data quickly and efficiently .	3 . 98	0 . 75	79 . 60%	11 . 16	0 . 000	High
X3	The bank uses artificial intelligence technologies to detect unusual patterns and transactions in financial data .	2 . 49	1 . 21	49 . 80%	-3 . 60	0 . 001	Low
X4	Some banking and accounting operations rely on intelligent automation to perform repetitive procedures .	3 . 86	0 . 87	77 . 20%	8 . 45	0 . 000	High
X5	The bank uses predictive analytics to identify indicators and potential risks associated with transactions .	2 . 56	1 . 11	51 . 20%	-3 . 39	0 . 001	Low
X6	The artificial intelligence technologies used by the bank help link data from different sources and systems .	3 . 93	0 . 76	78 . 60%	10 . 46	0 . 000	High
X7	Artificial intelligence applications provide information and analyses that help employees support decisions related to their duties .	2 . 50	1 . 13	50 . 00%	-3 . 78	0 . 000	Low
X8	The bank has suitable technological infrastructure and staff competencies to use and develop artificial intelligence applications .	3 . 79	0 . 84	75 . 80%	8 . 04	0 . 000	High
Overall Average	Artificial Intelligence Technologies	3 . 40	—	68 . 00%	—	—	Moderate

Source: Prepared by the researcher based on the statistical analysis results .

Table (4) shows that the artificial intelligence technologies variable had an overall mean of (3 . 40) and a relative weight of (68%), indicating a moderate level of implementation in the sampled banks . The item on using artificial intelligence to process and analyze financial and accounting data recorded the highest mean of (4 . 09), while the item on detecting unusual patterns and transactions recorded the lowest mean of (2 . 49) . The results indicate that artificial intelligence use is concentrated more heavily in data processing, automation, and system integration, with limited use of more advanced applications, particularly predictive analytics, unusual transaction detection, and decision support .

4-7 Description and Assessment of the Accounting Information Quality Variable

To assess accounting information quality in the sampled banks, respondents' answers to this variable's items were analyzed using the mean, standard deviation, and relative weight, along with a t-test against the hypothetical mean of (3) . Table (5) below shows the extent to which accounting information quality characteristics are present, helping identify strengths and shortcomings in the information used within the sampled banks .

Table (5): Descriptive Statistics and Hypothetical Mean Test Results for the Accounting Information Quality Variable

Code	Item	Mean	Standard Deviation	Relative Weight	t-value	Sig .	Response Level
Y1-1	The bank's accounting information provides relevant information that supports decision-making .	3 . 98	0 . 79	79 . 60%	10 . 60	0.000	High
Y1-2	Accounting information reflects financial transactions and events faithfully and objectively .	4 . 05	0 . 68	81 . 00%	13 . 19	0.000	High
Y1-3	Accounting information is accurate and free from material errors that could affect users' decisions .	2 . 67	1 . 08	53 . 40%	-2 . 61	0.011	Moderate

Code	Item	Mean	Standard Deviation	Relative Weight	t-value	Sig .	Response Level
Y1-4	Accounting information allows the bank's results to be compared across different periods .	3 . 79	0 . 86	75 . 80%	7 . 85	0.000	High
Y1-5	Accounting information can be verified using its supporting documents and records .	3 . 60	0 . 99	72 . 00%	5 . 18	0 . 000	High
Y1-6	Accounting information is available in a timely manner that meets users' needs .	3 . 82	0 . 94	76 . 40%	7 . 45	0.000	High
Y1-7	Accounting information is presented clearly and understandably to its users .	2 . 78	1 . 21	55 . 60%	-1 . 55	0.125	Moderate
Y1-8	Accounting information provides an appropriate basis for assessing performance and risks and making economic decisions .	3 . 76	0 . 90	75 . 20%	7 . 21	0.000	High
Overall Average	Accounting Information Quality	3 . 56	—	71. 13%	—	—	High

Source: Prepared by the researcher based on the statistical analysis results .

Table (5) shows that the accounting information quality variable had an overall mean of (3 . 56) and a relative weight of (71 . 13%), indicating relatively high quality in the sampled banks . The item on faithful and objective accounting information recorded the highest mean of (4 . 05), while the item on accuracy and freedom from material errors recorded the lowest mean of (2 . 67) . The results indicate good levels of relevance, faithful representation, comparability, and timeliness, alongside some shortcomings in accuracy and clarity . This calls for stronger verification and review procedures and improved information presentation methods .

5-7 Description and Assessment of the Accounting Disclosure Level Variable

To assess the level of accounting disclosure in the sampled banks, respondents' answers to this variable's items were analyzed using the mean, standard deviation, and relative weight, along with a t-test against the hypothetical mean of (3) . Table (6) below presents the extent to which accounting disclosure characteristics are present in terms of adequacy, relevance, clarity, timeliness, credibility, and transparency, helping assess current disclosure practices and identify their strengths and shortcomings .

Table (6): Descriptive Statistics and Hypothetical Mean Test Results for the Accounting Disclosure Level Variable

Code	Item	Mean	Standard Deviation	Relative Weight	t-value	Sig .	Response Level
Y2-1	The bank discloses the material financial and accounting information needed by financial report users .	3 . 39	0 . 99	67. 80%	3 . 37	0 . 001	Moderate
Y2-2	Disclosed information is adequate and comprehensive, helping provide a clear picture of the bank's performance .	3 . 13	1 . 08	62. 60%	1 . 03	0 . 307	Moderate
Y2-3	Accounting disclosure focuses on information that is material and relevant to financial report users' decisions .	3 . 60	0 . 99	72.00%	5 . 18	0 . 000	High
Y2-4	Disclosed information is presented clearly and understandably, making it easy to use .	2 . 78	1 . 18	55.60%	-1 . 59	0 . 116	Moderate
Y2-5	Accounting information is disclosed in a timely manner, without delays that affect its usefulness .	3 . 90	0 . 85	78. 00%	9 . 05	0 . 000	High
Y2-6	Disclosed information is credible, objective, and non-misleading .	3 . 38	0 . 93	67. 60%	3 . 49	0 . 001	Moderate

Code	Item	Mean	Standard Deviation	Relative Weight	t-value	Sig .	Response Level
Y2-7	The bank provides an appropriate level of transparency concerning risks, operations, and events with financial effects .	2 . 69	1 . 10	53. 80%	-2 . 41	0 . 019	Moderate
Y2-8	Accounting disclosure enables users to assess the bank's performance and risks and make appropriate decisions .	3 . 24	1 . 02	64. 80%	2 . 01	0 . 048	Moderate
Overall Average	Accounting Disclosure	3 . 26	—	65. 28%	—	—	Moderate

Source: Prepared by the researcher based on the statistical analysis results .

Table (6) shows that the accounting disclosure variable had an overall mean of (3 . 26) and a relative weight of (65 . 28%), indicating a moderate level of disclosure in the sampled banks . The item on timely accounting information disclosure recorded the highest mean of (3 . 90), while the item on transparency concerning risks, operations, and events with financial effects recorded the lowest mean of (2 . 69) . The results indicate an acceptable level of disclosure in terms of timeliness and relevance, alongside relative weaknesses in clarity, transparency, and adequacy . This reflects the need to develop disclosure practices that improve the comprehensiveness, credibility, and usefulness of information for financial report users .

6-7 Description and Assessment of the ISO 37001:2025 Requirements Variable

To assess the extent to which ISO 37001:2025 requirements are present in the sampled banks, respondents' answers to this variable's items were analyzed using the mean, standard deviation, and relative weight, along with a t-test against the hypothetical mean of (3) . The following table presents the implementation levels of requirements relating to bribery risk assessment, due diligence, financial and non-financial controls, reporting and investigation, awareness and training, monitoring, and continual improvement, helping assess the banks' readiness to implement an effective anti-bribery management system .

Table (7): Descriptive Statistics and Hypothetical Mean Test Results for the ISO 37001:2025 Requirements Variable

Code	Item	Mean	Standard Deviation	Relative Weight	t-value	Sig .	Response Level
M1	The bank periodically assesses bribery risks associated with its activities and transactions .	4 . 23	0 . 56	84 . 60%	18 . 77	0 . 000	Very High
M2	The bank's management defines clear responsibilities and authorities for anti-bribery and compliance with its procedures .	4 . 10	0 . 63	82 . 00%	14 . 92	0 . 000	High
M3	The bank applies due diligence procedures when dealing with customers, suppliers, and related parties, particularly in high-risk cases .	4 . 16	0 . 68	83 . 20%	14 . 58	0 . 000	High
M4	The bank adopts appropriate financial controls to reduce the likelihood of financial transactions being used for bribery .	4 . 12	0 . 66	82 . 40%	14 . 50	0 . 000	High
M5	The bank applies non-financial controls to contracting, procurement, and the selection of its business counterparties .	2 . 47	1 . 28	49 . 40%	-3 . 54	0 . 001	Low
M6	The bank provides secure and confidential channels for reporting suspected bribery or related violations .	4 . 21	0 . 73	84 . 20%	14 . 16	0 . 000	Very High

Code	Item	Mean	Standard Deviation	Relative Weight	t-value	Sig .	Response Level
M7	Suspected bribery cases are examined and investigated under defined and independent procedures .	4 . 26	0 . 55	85 . 20%	19 . 57	0 . 000	Very High
M8	The bank provides employees with awareness and training programs on bribery risks and anti-bribery requirements .	4 . 38	0 . 59	87 . 60%	19 . 98	0 . 000	Very High
M9	The effectiveness of anti-bribery procedures and controls is periodically monitored and evaluated through audits and reviews .	2 . 35	1 . 13	47 . 00%	-4.91	0 . 000	Low
M10	The bank takes corrective and improvement measures when shortcomings are identified in the anti-bribery management system .	4 . 08	0 . 72	81 . 60%	12 . 82	0 . 000	High
Overall Average	ISO 37001:2025 Requirements	3 . 84	—	76 . 72%	—	—	High

Source: Prepared by the researcher based on the statistical analysis results .

Table (7) shows that ISO 37001:2025 requirements had an overall mean of (3 . 84) and a relative weight of (76 . 72%), indicating a high level of availability in the sampled banks . The item on bribery risk awareness and training programs recorded the highest mean of (4 . 38), followed by the item on examining and investigating suspected cases, with a mean of (4 . 26) . In contrast, the item on periodic monitoring and evaluation of anti-bribery procedure effectiveness recorded the lowest mean of (2 . 35), followed by the item stating that the bank applies non-financial controls to contracting, procurement, and the selection of business counterparties, with a mean of (2 . 47) . These findings indicate that the banks demonstrate a good level of commitment to anti-bribery procedures, while requiring stronger periodic monitoring and non-financial controls to support comprehensive implementation of the standard's requirements .

7-7 Testing the Research Hypotheses

After describing and assessing the research variables, the hypotheses were tested to examine the relationships and effects proposed by the research model among artificial intelligence technologies, ISO 37001:2025 requirements, accounting information quality, and accounting disclosure . Correlations were first tested using Pearson's correlation coefficient, followed by direct effects using regression analysis, and finally the indirect effect of ISO 37001:2025 requirements as a mediating variable . A significance level of ($\alpha \leq 0 . 05$) was adopted to assess the statistical significance of the results .

1-7-7 Testing Correlations among the Research Variables

This test aims to determine the direction and strength of relationships among the research variables using Pearson's correlation coefficient . A relationship is considered statistically significant when its P-value is $\leq 0 . 05$. The sign of the correlation coefficient indicates the direction of the relationship, while its value reflects the strength of the relationship between the two variables .

Table (8): Results of Correlation Tests among the Research Variables

Hypothesis	Correlation	Correlation Coefficient (r)	P-value	Direction and Strength	Decision
H1a	Artificial Intelligence Technologies × Accounting Information Quality	0 . 620	0 . 000	Positive and relatively strong	Accept hypothesis
H1b	Artificial Intelligence Technologies × Accounting Disclosure	0 . 540	0 . 000	Positive and moderate	Accept hypothesis
Preliminary relationship	Artificial Intelligence Technologies × ISO 37001:2025 Requirements	0 . 660	0 . 000	Positive and relatively strong	Statistically significant

Hypothesis	Correlation	Correlation Coefficient (r)	P-value	Direction and Strength	Decision
Preliminary relations hip	ISO 37001:2025 Requirements × Accounting Information Quality	0 . 580	0 . 000	Positive and moderate to strong	Statistically significant
Preliminary relations hip	ISO 37001:2025 Requirements × Accounting Disclosure	0 . 610	0 . 000	Positive and relatively strong	Statistically significant

Source: Prepared by the researcher based on the statistical analysis results .
Note: n=73, and the adopted significance level is $\alpha \leq 0 . 05$.

Table (8) shows statistically significant positive correlations among the research variables at a significance level below (0 . 05) . The strongest relationship was between artificial intelligence technologies and ISO 37001:2025 requirements, with a correlation coefficient of (0 . 660), indicating that greater use of artificial intelligence technologies is associated with a higher level of availability of the standard's requirements . The correlation between artificial intelligence and accounting information quality was (0 . 620), and that between artificial intelligence and accounting disclosure was (0 . 540), supporting acceptance of hypotheses H1a and H1b . The results also showed positive correlations between ISO 37001:2025 requirements and both accounting information quality and accounting disclosure, with coefficients of (0 . 580) and (0 . 610), respectively . This provides an initial basis for testing direct effects and the standard's mediating role .

7-7-2 Testing Direct Effects among the Research Variables

After establishing the correlations, the direct effects specified in the research model are tested using regression analysis . Model significance is assessed through the F-value and its significance level . The significance of the independent variable's effect is assessed through the standardized regression coefficient (β), the t-value, and the significance level, while the coefficient of determination (R^2) represents the proportion of variation in the dependent variable explained by the independent variable .

Table (9): Results of Direct-Effect Tests among the Research Variables

Hypothesis	Effect Path	β	t	P-value	R^2	F	Decision
H2a	Effect of Artificial Intelligence Technologies on Accounting Information Quality	0 . 620	6 . 658	0 . 000	0 . 384	44 . 335	Accept hypothesis
H2b	Effect of Artificial Intelligence Technologies on Accounting Disclosure	0 . 540	5 . 406	0 . 000	0 . 292	29 . 226	Accept hypothesis
H3	Effect of Artificial Intelligence Technologies on ISO 37001:2025 Requirements	0 . 660	7 . 403	0 . 000	0 . 436	54 . 797	Accept hypothesis
H4a	Effect of ISO 37001:2025 Requirements on Accounting Information Quality	0 . 580	5 . 999	0 . 000	0 . 336	35 . 992	Accept hypothesis
H4b	Effect of ISO 37001:2025 Requirements on Accounting Disclosure	0 . 610	6 . 487	0 . 000	0 . 372	42 . 075	Accept hypothesis

Source: Prepared by the researcher based on the statistical analysis results .
Note: Sample size n=73, and the adopted significance level is $\alpha \leq 0 . 05$.

Table (9) shows that all direct effects were positive and statistically significant . The effect of artificial intelligence technologies on ISO 37001:2025 requirements recorded the highest effect coefficient ($\beta=0 . 660$), with explanatory power of 43 . 6% . Artificial intelligence technologies also explained approximately 38 . 4% of the variance in accounting information quality and 29 . 2% of the variance in accounting disclosure . The standard's requirements explained approximately 33 . 6% of the variance in information quality and 37 . 2% of the variance in accounting disclosure, supporting acceptance of hypotheses H2a, H2b, H3, H4a, and H4b .

7-7-3 Testing the Mediating Role of ISO 37001:2025 Requirements

Testing mediation is an important part of the research model, as it seeks to determine whether ISO 37001:2025 requirements constitute a mechanism through which artificial intelligence technologies affect both accounting information quality and accounting disclosure . Establishing mediation requires more than observing a change in the direct-effect coefficient after introducing the mediator . It requires testing the indirect effect through bootstrapping and examining the 95% confidence interval . The indirect effect is significant when the confidence interval does not include zero .

Table (10): Results of Testing the Mediating Role of ISO 37001:2025 Requirements

Hypothesis	Mediating Path	Direct Effect	Indirect Effect	Lower CI Bound	Upper CI Bound	Mediation Type	Decision
H5a	Mediation by ISO 37001:2025 Requirements in the Effect of Artificial Intelligence Technologies on Accounting Information Quality	0 . 420	0 . 200	0 . 057	0 . 376	Partial mediation	Accept hypothesis
H5b	Mediation by ISO 37001:2025 Requirements in the Effect of Artificial Intelligence Technologies on Accounting Disclosure	0 . 243	0 . 297	0 . 119	0 . 508	Full mediation	Accept hypothesis

Source: Prepared by the researcher based on the results of mediation analysis using bootstrapping .

Note: A 95% confidence interval and 5,000 bootstrap samples were used . The indirect effect is significant when the confidence interval does not include zero .

Table (10) shows that ISO 37001:2025 requirements mediate the effect of artificial intelligence technologies on the two dependent variables . For accounting information quality, the indirect effect was (0 . 200), and the confidence interval (0 . 057–0 . 376) did not include zero, while the direct effect of artificial intelligence remained at (0 . 420), indicating partial mediation . For accounting disclosure, the indirect effect was (0 . 297), with a confidence interval of (0 . 119–0 . 508), while the direct effect fell to (0 . 243) and approached the threshold of non-significance, indicating full mediation by the standard's requirements .

7-7-4 Summary of Research Hypothesis Testing Results

In light of the correlation tests, direct-effect tests, and mediation analysis, the results of hypothesis testing can be summarized to show the extent to which the empirical findings support the hypothesized research model, as presented in Table (11) below .

Table (11): Summary of Research Hypothesis Testing Results

Hypothesis	Hypothesis Content	Result
H1a	There is a correlation between artificial intelligence technologies and accounting information quality .	Accepted
H1b	There is a correlation between artificial intelligence technologies and accounting disclosure .	Accepted
H2a	Artificial intelligence technologies affect accounting information quality .	Accepted
H2b	Artificial intelligence technologies affect accounting disclosure .	Accepted
H3	Artificial intelligence technologies affect ISO 37001:2025 requirements .	Accepted
H4a	ISO 37001:2025 requirements affect accounting information quality .	Accepted
H4b	ISO 37001:2025 requirements affect accounting disclosure .	Accepted
H5a	ISO 37001:2025 requirements mediate the relationship between artificial intelligence and accounting information quality .	Accepted – partial mediation
H5b	ISO 37001:2025 requirements mediate the relationship between artificial intelligence and accounting disclosure .	Accepted – full mediation

8- Conclusions and Recommendations

8-1 Conclusions

Based on the empirical results and research hypothesis tests, the following conclusions were reached:

- The results showed a moderate level of artificial intelligence use in the sampled banks, with a relative weight of 68% . This indicates that use remains concentrated in data processing, automation, and system integration, with limited application of more advanced technologies in predictive analytics, unusual transaction detection, and decision support .
- Accounting information quality reached a relatively high level, with a relative weight of 71 . 13%, particularly in relevance, faithful representation, timeliness, and comparability . However, improvements are needed in information accuracy, clarity, and usability .
- Accounting disclosure was moderate, with a relative weight of 65 . 28% . The results showed good disclosure timeliness and relevance, alongside relative weaknesses in transparency, adequacy, and clarity, particularly regarding the disclosure of risks and events with financial effects .
- The results showed a high level of availability of ISO 37001:2025 requirements, at 76 . 72% . This reflects the banks' attention to bribery risk assessment, due diligence, reporting, investigation, and training, with relative shortcomings in non-financial controls and the periodic monitoring and evaluation of anti-bribery procedure effectiveness .

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5- The tests established statistically significant positive correlations and effects between artificial intelligence technologies and both accounting information quality and accounting disclosure . This confirms that greater use of intelligent technologies can improve information characteristics and enhance disclosure effectiveness .

6- Artificial intelligence technologies were found to play an important role in supporting ISO 37001:2025 requirements, explaining approximately 43 . 6% of the variation in the level of availability of the standard's requirements . This reflects the potential for intelligent data analysis, automated monitoring, and early detection to strengthen the anti-bribery system .

7- Mediation analysis confirmed that ISO 37001:2025 requirements are an important mechanism through which artificial intelligence technologies affect accounting outcomes . They act as a partial mediator between artificial intelligence and accounting information quality and as a full mediator between artificial intelligence and accounting disclosure . This supports the importance of integrating intelligent technologies with control requirements in the banking environment .

8-2 Recommendations

Based on the study's conclusions, the following recommendations can be made:

1- Expand the use of artificial intelligence technologies in the sampled banks, particularly in predictive analytics, unusual transaction detection, and support for accounting and control decisions, rather than limiting their use to data processing and basic automation .

2- Enhance accounting information quality by developing data verification and review mechanisms and giving greater attention to information accuracy, clarity, and understandability, thereby increasing its usefulness to financial report users .

3- Develop accounting disclosure practices to improve transparency, adequacy, and clarity, with greater attention to the timely disclosure of risks, events, and operations with financial effects .

4- Work toward fulfilling ISO 37001:2025 requirements in banks, focusing particularly on strengthening non-financial controls, activating periodic monitoring and evaluation of anti-bribery procedure effectiveness, and addressing shortcomings identified through audits and reviews .

5- Integrate artificial intelligence applications with banks' compliance and anti-bribery systems to enable continuous transaction monitoring, early detection of risk indicators, analysis of unusual patterns, and support for due diligence procedures .

6- Provide ongoing training and development programs for accounting, auditing, compliance, and risk management staff on the professional use of artificial intelligence technologies and ISO 37001:2025 requirements, ensuring the effective and responsible use of these technologies .

7- Adopt an integrated control framework combining artificial intelligence technologies and ISO 37001:2025 requirements, given the findings on the importance of this integration for enhancing accounting information quality and disclosure, while maintaining human oversight and professional verification of intelligent system outputs .

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