



THE IMPACT OF USING ARTIFICIAL INTELLIGENCE TECHNOLOGIES ON IMPROVING THE QUALITY OF AUDIT EVIDENCE-A SURVEY STUDY OF A SAMPLE OF AUDIT COMPANIES IN IRAQ

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Article history:		Abstract:
Received:	28 th December 2025	This study aims to analyze the impact of the use of artificial intelligence technologies in improving the quality of audit evidence in audit companies operating in Iraq, in light of the accelerated technological developments witnessed by the field of accounting and auditing. Artificial intelligence applications and advanced data analysis have become important tools that can contribute to supporting audit procedures and enhancing the efficiency of auditors in collecting and evaluating audit evidence. The problem of the study is the extent to which these techniques can improve the quality of audit evidence by enhancing its adequacy, relevance and reliability and reducing the risk of not detecting material errors in the financial statements. The study sought to test the relationship between the use of artificial intelligence technologies and the quality of audit evidence in the Iraqi professional environment. To achieve this, the study adopted the descriptive-analytical approach for its suitability to the nature of research aimed at analyzing the relationships between variables and testing hypotheses. The questionnaire was also used as a key tool to collect data from a sample of auditors working in audit companies in Iraq, who hold various professional positions such as auditor, senior auditor, audit supervisor and audit manager, with the requirement of having appropriate professional experience in the field of audit. The results of the statistical analysis showed that there is a statistically significant significant impact of the use of artificial intelligence technologies in improving the quality of audit evidence, as these technologies contributed to enhancing the adequacy and relevance of audit evidence and increasing its reliability, as well as their role in reducing the risk of not detecting material errors during the audit process. The results also showed a positive trend among the respondents towards the importance of employing modern technologies in supporting audit procedures and improving the efficiency of professional performance. The study concludes that the adoption of artificial intelligence technologies in audit firms can contribute to the development of the quality of professional practice and raise the level of confidence in financial reports. Accordingly, the study recommends the need to promote the use of smart technologies and data analysis in audits, provide specialized training programs for auditors, as well as encourage more future studies that address more advanced applications of artificial intelligence in the audit field.
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1- INTRODUCTION

The business environment has witnessed rapid transformations in recent years as a result of the significant development in information and communication technologies, which has clearly reflected on the nature of accounting and auditing practices. This development has led to the emergence of advanced applications of artificial intelligence, which has become one of the most important modern tools used to support analysis and decision-making processes in various fields, including the field of Accounting Audit. Artificial intelligence is a set of technologies and systems capable of simulating human mental abilities such as learning, analysis and deduction, through the use of advanced algorithms for



processing large amounts of data and extracting patterns and relationships from them. In the field of auditing, reliance on artificial intelligence technologies has become one of the modern trends aimed at enhancing the efficiency and effectiveness of the audit process, especially in light of the significant increase in the volume of financial statements and the complexity of economic operations. These technologies include multiple applications such as machine learning, big data analysis, expert systems, and anomaly detection techniques, which can contribute to improving the ability of auditors to analyze data and detect errors or fraud cases more accurately and quickly compared to traditional methods. These technologies also make it possible to examine all financial transactions instead of relying on samples, which enhances the level of confidence in the results of the audit process. Many recent studies have confirmed that the use of artificial intelligence technologies can contribute to the development of audit practices and improve the quality of its outputs, by supporting the process of collecting and evaluating audit evidence and enhancing its ability to achieve the quality characteristics of adequacy, relevance and reliability. The development in data analysis techniques and Intelligent Systems has provided auditors with advanced tools that help them to detect material errors and manipulation in financial statements early, which reflects positively on the quality and reliability of financial reports. These topics are particularly important in professional environments that seek to keep pace with digital developments in the field of accounting and auditing, including the audit environment in Iraq, where audit firms face multiple challenges related to increasing the size of financial statements and the complexity of accounting operations, as well as the need to improve the quality of audit evidence in line with the requirements of international professional standards. Despite the increasing importance of the application of artificial intelligence technologies in this field, the level of their use in the Iraqi audit environment is still relatively limited, which highlights the need to study the impact of these technologies on improving the quality of audit evidence. From this point of view, this study comes to highlight the role of artificial intelligence technologies in supporting the audit process and improving the quality of audit evidence in audit companies in Iraq, through analyzing the relationship between the use of these technologies and the quality of audit evidence, which contributes to providing a knowledge and application framework that helps in developing audit practices and enhancing the reliability of financial information. Proceeding from this, the study seeks to identify the research problem, formulate its goals and test its hypotheses in the light of the theoretical framework and field study that will be dealt with in subsequent sections.

2- RESEARCH METHODOLOGY

2-1 Research problem

In light of the accelerated technical developments and the reliance of many audit firms globally on artificial intelligence technologies in the implementation of audit procedures, the level of employment of these technologies in audit firms in Iraq is still unclear, and their impact on improving the quality of audit evidence has not been evaluated in an accurate scientific manner. The main research problem is the following question:

"What is the impact of using artificial intelligence technologies in improving the quality of audit evidence in audit companies in Iraq", A number of sub-problems emerge from the main problem, such as :

- 1- What is the level of use of artificial intelligence technologies in audit companies in Iraq?
- 2- Does the use of artificial intelligence technologies have an impact on enhancing the adequacy and relevance of audit evidence?
- 3- Does the use of artificial intelligence technologies contribute to increasing the reliability of audit evidence and reducing the risk of non-detection?

2-2 Research hypothesis

The main hypothesis of the research can be formulated according to the following

" There is a statistically significant impact of the use of artificial intelligence technologies in improving the quality of audit evidence in audit firms in Iraq". A number of sub-hypotheses emerge from the main hypothesis, such as :

- There is a statistically significant impact of the use of artificial intelligence technologies in enhancing the adequacy and relevance of audit evidence in audit firms in Iraq.
- There is a statistically significant impact of the use of artificial intelligence technologies in increasing the reliability of audit evidence in audit firms in Iraq.
- There is a statistically significant impact of the use of artificial intelligence technologies in reducing the risk of not detecting fundamental errors in audit companies in Iraq.

2-3 Research importance

The importance of the research stems from the following reasons

1-the research contributes to addressing the lack of Applied Studies that dealt with the impact of artificial intelligence techniques on the quality of audit evidence in the Iraqi environment, as most of the previous studies were concentrated in technically advanced environments. Thus, the research provides a scientific framework linking technical development and the dimensions of evidence quality (adequacy, relevance, reliability) in a local professional context.



2-the research helps to reframe the concept of the quality of audit evidence in light of the shift towards audit based on data analysis and smart systems, by building a measurement model that integrates technical variables within the approved professional methodology, thus enhancing the integration between theory, international standards and practice.

3-the research provides quantitative indicators that help the Departments of audit companies in Iraq to assess the level of employing artificial intelligence technologies and their actual impact in enhancing the adequacy and relevance of evidence, which contributes to improving the quality of professional performance and reducing reliance on traditional procedures based on limited samples.

4-the research contributes to enhancing the ability of auditors to reduce the risk of non-detection by measuring the impact of smart technologies in raising the reliability of evidence and early detection of material errors and fraud, the research provides a practical basis for adopting advanced analysis tools that support professional decision-making, and increase the level of confidence in audit reports issued by Iraqi audit companies.

2-4 Research objectives

The main objectives of the research are the following

1-diagnosing the level of using artificial intelligence technologies in Iraqi audit companies and determining the degree of their integration into audit procedures.

2-measuring the impact of using artificial intelligence technologies in enhancing the adequacy and relevance of audit evidence in terms of expanding the scope of examination and improving the accuracy of analytical procedures.

3-analyzing the impact of using artificial intelligence technologies in increasing the reliability of audit evidence and reducing the risk of non-detection of material errors and fraud.

4-providing applied recommendations that support the development of audit methodologies in Iraqi audit companies in accordance with the requirements of the digital environment.

2-5 Research limits

1- Spatial limits: the research is limited to a sample of audit companies and offices operating in Iraq, as the applied framework for the study.

2- Time limits: the study is conducted during the academic year in which the data is collected, and its results reflect the reality of using artificial intelligence technologies in the contemporary time period to conduct the study.

3- THE CONCEPTUAL BASIS OF ARTIFICIAL INTELLIGENCE TECHNIQUES IN AUDITING

3-1 The Concept Of Artificial Intelligence

In light of the rapid development of artificial intelligence technologies, academic studies require precise scientific definitions that reflect the capabilities of intelligent systems in simulating human cognitive functions and achieving goals. Artificial intelligence is defined as the ability of computer systems to perceive surrounding environments, learn from data, and take actions that achieve specific goals with effectiveness similar to human performance (Collins et al., 2021). Others have defined it "as the concrete ability of non-human machines to perform tasks, solve problems, interact, and make decisions logically as happens in humans, with different levels of performance and autonomy that determine the extent to which they are capable of self-functioning" (Gil de Zúñiga, et al., 2023).

3-2 Types Of Artificial Intelligence Technologies Used In Auditing

Artificial intelligence technologies in auditing are pivotal tools to improve the effectiveness and efficiency of financial audits, from data analysis to risk verification and fraud detection. These technologies are based on advanced models for processing voluminous information and automating complex decisions.

1-Machine Learning : Machine learning techniques are used in auditing to improve the accuracy of forecasts and detect abnormal patterns within large financial data sets, helping auditors assess risks and prepare audit strategies based on models that learn from historical data (Nguyen, 2025). In the same context, the research shows how machine learning enhances audit automation and compares different models such as decision trees and random forests in the detection of anomalies and fraud within financial records with accurate performance evaluations (Gil de Zúñiga et al., 2023).

2-Big Data Analysis : Big data analysis is one of the main pillars of artificial intelligence applications in auditing, as it allows processing huge amounts of financial and non-financial data to detect patterns and identify potential risks instead of traditional manual analysis, which enhances the speed and accuracy of auditing. In addition, advanced analysis techniques are used to predict fraudulent or abnormal events via predictive models supported by extracting information from large and different sources (Nguyen, 2025).

3- Expert Systems: Expert systems are used in auditing to represent the experience of a human auditor within knowledge bases based on previous experiences and logical rules, which contributes to supporting decision-making and reducing human errors in evaluating financial documents and determining the types of audit reports (root, 2024).



Research has proven that the application of these systems leads to an improvement in the quality of external audit and its impact on investor decisions through logical inferences based on rules (Saif et al., 2025).

4- Anomaly Detection: Deviation detection is a technique that often relies on artificial intelligence models to detect transactions that are abnormal or deviate from the expected behavior, which is critical in financial auditing to detect fraud or large errors. Advanced Studies also compare different models for detecting anomalies in government audit data, showing that combining multiple strategies enhances the accuracy of identifying anomalies within large data sets (Genaro-Moya et al., 2025).

3-3 Digital Auditing And The Shift Towards Intelligent Automation

In recent years, the concept of intelligent audit has emerged as a natural extension of the transformation of traditional audit into a digital environment based on advanced analysis tools and artificial intelligence, as the audit process has expanded to include diverse and complex data beyond traditional financial statements. A paper (Lu & Wu, 2025), in a comprehensive review of the concept of intelligent auditing from a data science perspective, shows how the integration of artificial intelligence technologies, such as predictive models and big data analysis, leads to improved quality of audit procedures and more real-time detection of risks. The research also discusses the theoretical transformations and the applied framework of these technologies, as well as highlighting the current research gap in the embodiment of smart audit systems in practice, which indicates the need to develop frameworks and practical applications to keep pace with technological development in this field . Systematic research into the application of artificial intelligence and robotic automation of processes (RPA) in auditing and accounting is an important step to understanding how these tools can speed up audit procedures and reduce the burden on auditors in routine tasks. , Explains (Kassar & Jizi, 2025), that the combination of artificial intelligence and RPA provides multiple benefits that include improving the quality of reports, speeding up operational processes, and mitigating human errors. The research also shows the organizational, ethical and technical challenges facing the adoption of these technologies, and proposes future research priorities to enhance the effectiveness of use in the auditing profession. This study contributes to clarifying the overall picture of digital and automatic transformation within the audit environment, while emphasizing the need to develop the professional skills of auditors to keep pace with these changes .

3-4 Advantages and challenges of using artificial intelligence in an audit environment

Artificial intelligence significantly enhances the accuracy, efficiency and effectiveness of financial audit practices through the following :

1-Improve the quality of planning and implementation: artificial intelligence facilitates the analysis of big data and the detection of potential risks at early stages of the audit process, enabling auditors to allocate resources more effectively and reduce the time spent on planning and implementation (Abouelela, 2025).

2-increase accuracy and reduce errors: artificial intelligence tools such as machine learning and automated analysis allow checking across the entire data (full population) instead of sampling, which reduces the likelihood of human errors and increases the reliability of the results.

3-automation of routine tasks: technologies such as Document Analysis and pattern recognition speed up routine checks, freeing auditors to focus on activities that require professional judgment and in-depth analysis.

4-improve communication with customers: a field study showed that artificial intelligence contributes to enhancing the interaction of auditors with customers through clearer reports and faster data analysis, which supports professional relationships and enhances the satisfaction of interested parties.

The application of artificial intelligence in auditing poses great opportunities, but it is accompanied by complex technical, organizational and ethical challenges such as :

1-transparency and interpretability: many AI models are characterized by complexity and difficulty in interpreting the results by auditors, which limits the understanding of why the system came to a particular conclusion, and therefore hinders their widespread adoption within the profession (Kokina & Blanchette, 2025). Poor interpretation of models affects the auditor's confidence and the credibility of reports submitted to stakeholders, especially in contexts that require decisions to be justified in a transparent manner. In response to this challenge, studies indicate the importance of developing explainable AI algorithms that become supporting tools and not a complete substitute for human judgment

2-data privacy and security: relying on artificial intelligence requires processing huge amounts of private financial data, which raises concerns related to protecting privacy and ensuring the security of sensitive information against hacks or leaks (Pérez-Calderón, 2025). This requires the development of a solid technical infrastructure that complies with local and International Data Protection Regulations, which can be a burden for SMEs. The lack of homogeneous regulatory frameworks on how to handle data within AI systems compounds the challenges, especially when auditing combines financial data with personal information.



3-lack of skills and training of auditors: research indicates that auditors often do not have sufficient advanced technical skills to effectively use AI tools, which is an obstacle to the full adoption of these technologies. Poor training involves not only the use of tools, but also understanding how to monitor and evaluate the performance of intelligent models and interpret their outputs within professional contexts. One of the proposals to enhance the effectiveness of adoption is to focus on specialized educational programs and practical training sessions that integrate artificial intelligence into accounting and auditing curricula. (Firat, 2025)

4-organizational and ethical challenges: ethical challenges relate to the risks of algorithmic bias and problems of fairness in smart models, which may lead to unfair or biased decisions if the principles of ethical governance are not observed. also, there is a need for new regulatory frameworks that define responsibility and accountability when using artificial intelligence in auditing, especially in cases of error or damage caused by inaccurate outputs. This requires collaboration between professionals, regulators, and practitioners to develop policies that govern the use of artificial intelligence in a fair and responsible manner.(Leocádio et al., 2024).

4- THE QUALITY OF AUDIT EVIDENCE UNDER PROFESSIONAL STANDARDS

4-1 The Concept Of Audit Evidence

Audit evidence is the cornerstone of the audit process, as it is used by auditors to conclude whether the financial statements are free from material misstatements and supports the professional audit opinion. According to (Bllaca,2024), audit evidence refers to the information, records and documents that the auditor collects from the financial statements and supporting procedures that are used to assess the accuracy and compliance of financial statements with professional standards . Audit evidence is also defined as all the information that the auditor collects and evaluates during the audit process in order to support the audit findings and conclusions about the extent to which the financial statements are presented fairly and in accordance with reference standards, including records, documents, external confirmations, and analytical procedures (Yin, 2019).

4-2 The importance of audit evidence

Audit evidence is an essential element of the audit process, as it enables auditors to reach a level of reasonable assurance that forms the basis of their professional opinion on the extent to which the financial statements are free from material misstatements. One of the key dimensions of the importance of audit evidence is that it directly contributes to achieving audit quality; the presence of sufficient and appropriate evidence helps in detecting errors or deviations, increases the reliability of the conclusions drawn in the audit report and the intensity of confidence that beneficiaries of financial information can put in the results (Purba et al., 2025). Moreover, evidence is an important factor in reducing the risk of non-detection faced by the auditor, as the adequacy and suitability of evidence is closely related to the success of analytical procedures and detailed tests carried out by auditors. Studies have also shown that following the requirements of the evidence standard (ISA 500) enhances the auditor's ability to objectively complete the collection and evaluation of the necessary information, which raises the level of confidence in the reported results and improves the quality of final reports issued by auditors (Hussein, 2025). In this way, audit evidence ensures that the audit opinion is based on a factual and reliable basis.

4-3 Quality characteristics of audit evidence according to ISA 500

The most prominent characteristics of the quality of audit evidence are the following :

1-sufficiency (Sufficiency) Ensuring a sufficient amount of evidence is fundamental to supporting the auditor's conclusions. Sufficiency refers to the amount of evidence collected by the auditor to achieve a reasonable level of reassurance in his opinion, and is influenced by the extent of the risk assessment and the nature of the procedures used; the higher the risk, the higher the demand for more evidence, while high-quality evidence may reduce the need for excess quantity (Edori & Egwanwor, 2025).

2-convenience and reliability (Appropriateness & Reliability) After the auditor obtains the evidence, relevance and reliability come as quality characteristics that determine the suitability of the evidence for its purpose. Relevance means that the evidence is directly related to the assumptions that the auditor examines, such as the existence or integrity of balances, while reliability indicates how much the auditor trusts the evidence based on its source, nature and method of obtaining it; authentic, authentic external evidence is more reliable than internal or oral evidence (Edori & Egwanwor, 2025).

4-4 Audit risks and non-discovery risks

Before talking about risks, the audit process is fraught with factors that may affect the accuracy and consistency of the auditor's final opinion and the environment of trust in financial information .audit risk is defined as the likelihood that the auditor fails to detect material misstatements or errors in the financial statements, leading to the issuance of an inappropriate opinion.This includes inherent risks, Control Risks, and non-discovery risks that interact to form the overall audit risk and the auditor must estimate them at all stages of planning and implementation. Audit risks increase when



operations are complex, when internal control systems are weak, or when the economic environment is full of challenges; these factors can reduce the effectiveness of the audit procedures applied by the auditor, thereby leaving indicators of misrepresentation undetected (Putri & Arum, 2025). A thorough understanding of these risks is necessary to design a flexible audit plan that responds to potential challenges and minimizes the likelihood of issuing an inaccurate opinion.

Non-detection risk is a component of Audit Risk and indicates the likelihood that the actions performed by the Auditor do not reveal material misstatements present in the financial statements, whether caused by errors or fraud. These risks arise due to the limitations of audit tests, the use of samples instead of examining the entire data, poor design or implementation of procedures, or lack of skill and experience of the audit team. Despite the fact that auditors rely on detailed analytical procedures and tests, reliance on samples and human bias may contribute to the failure to detect some substantial distortions, especially in cases characterized by complexity or elaborate fraud. Moreover, the risk of non-detection increases when the internal control systems of the enterprise are weak, which requires the auditor to increase the scope and volume of tests to reduce the likelihood of failure to disclose material information (Pajunen et al., 2025). The management of the risk of non-detection is the basis for the planning of investigative actions and the selection of appropriate tools and techniques to ensure the collection of sufficient and reliable audit evidence.

4-5 The impact of the digital environment on the development of audit evidence collection methodologies

In the digital environment, the concept of audit evidence collection is changing from focusing on traditional paper documents to a broad investment of digital information systems and electronic data generated from ERP systems, cloud records, and intelligent systems. This transformation enables auditors to instantly access and analyze huge amounts of data in more comprehensive and effective ways compared to traditional sampling methods, enhancing the auditor's ability to verify information and detect risks in real time, which leads to improved quality and efficiency of evidence in supporting audit decisions. This trend confirms that the digital environment acts as an enabler in re-engineering evidence collection methodologies to be more dynamic and responsive to the complexities of the contemporary digital business environment. (Vitali &Giuliani,2024). The methodologies of evidence collection in the digital environment are based on advanced technologies such as artificial intelligence, advanced analytics and cloud systems that create integrated platforms for data analysis and improve the quality of measurement and documentation. These technologies are used to examine electronic business records, track real-time transaction flows, and analyze financial behavior patterns to identify intangible evidence that is difficult to detect by traditional methods, which contributes to raising the level of reliability and quality of audit evidence by reducing reliance on limited samples and increasing the comprehensive coverage of all available data. This development in methodologies reflects the impact of the digital environment in transforming evidence collection from a routine activity to an analysis process based on advanced digital tools. (Sabry ,2025).

4-6 The relationship between artificial intelligence technologies and the quality of audit evidence

Artificial intelligence technologies play a pivotal role in developing the quality of audit evidence through their ability to process and analyze huge amounts of data faster and more accurately than manual methods, which increases the efficiency and completeness of evidence collection and reduces dependence on traditional samples. Applications such as advanced analytics and machine learning enable auditors to detect abnormal patterns and easily identify hidden risks, which enhances the validity of key elements of audit evidence (Appelbaum et al., 2021). Reviews of the professional literature indicate that these techniques support the achievement of greater relevance and reliability in the collected evidence, especially in environments with increasing data complexity, which is a strong theoretical starting point combined with improving the quality of audit in accordance with the framework of the evidence standard (ISA 500) . (Appelbaum et al., 2021) Recent studies show that the adoption of artificial intelligence in the collection of audit evidence contributes to improving the overall coverage of data and reducing human errors, which is directly related to increasing the reliability of analytical results and reducing the risk of non-detection. In a field study aimed at exploring the impact of artificial intelligence on improving the quality of audit evidence, it was found that cloud technologies and text analytics enhance the level of verification of information and contribute to improving the quality of evidence in accordance with professional standards . In theory, this effect can be understood by the technology acceptance model (TAM) which shows that the perceived usefulness and ease of use influence the auditors ' adoption of smart technologies, which is reflected in the quality of audit evidence and readiness to make audited decisions.(Alturki, 2025). The literature indicates that the integration of artificial intelligence and traditional evidence collection methodologies not only enhances existing audit procedures but requires a theoretical framework that links technology and audits; for example, integrating artificial intelligence with audit planning, risk assessment, and evidence collection stages can fundamentally transform professional performance. From a holistic perspective, the use of advanced analysis algorithms reduces routine burdens and frees auditors to focus on complex professional questions, enhancing the quantitative and qualitative dimensions of evidence quality. This theoretical understanding supports the idea that artificial intelligence is not a substitute for professional



wisdom, but rather an enabling tool that improves the effectiveness, relevance, and credibility of audit evidence when used appropriately within professional frameworks. (Issa et al., 2021).

4-7 Previous studies

1-study (Issa, Sun & Vasarhelyi, 2021) - foreign

Title: artificial intelligence and auditing; approach: analytical-conceptual with experimental applications; sector: major auditing companies; period: shift towards continuous auditing. It aimed to frame the use of artificial intelligence in auditing by "formalizing" audit procedures and using machine learning algorithms to support the detection of anomalous patterns. The results indicate that the integration of algorithms enhances the relevance and adequacy of evidence and reduces the risk of non-detection, while professional skills need to be redesigned.

2-study (Appelbaum, Kogan & Vasarhelyi, 2021) - foreign

Title: Big Data Analytics and audit manuals; curriculum: analytical-theoretical; sector: multinational offices; period: 2020-2021. She discussed the integration of data analytics and artificial intelligence in evidence collection procedures in accordance with international standards, stressing that comprehensive data analysis enhances the reliability of evidence compared to limited samples, provided there is clear data governance and quality controls.

3 - study (Moll & Yigitbasioglu, 2020) – foreign

Title: digital transformation and auditing practices; curriculum: systematic literature review; sector: global; period: 2020. She highlighted that digital technologies (including artificial intelligence) are reshaping the work of auditors, transforming evidence collection into continuous data-driven analysis, with challenges related to ethics and governance. Title: artificial intelligence and audit quality; curriculum: quantitative; Sector: Audit bureaus; period: 2022.

4- study (Noordin, Hussainey & Hayek, 2022) – Arabic

Abstract: it showed a positive correlation between the use of artificial intelligence and improved audit quality, with a clear impact on the speed and accuracy of evidence collection and reduced reliance on samples.

Comparison and critical analysis

Areas of agreement: consensus that artificial intelligence expands the scope of examination and improves the relevance and adequacy of evidence, an inverse relationship between the adoption of technologies and the risk of non-detection, the need for data governance and advanced digital skills.

Differences: foreign studies focused on algorithmic models and actual data (higher explanatory power). Arab studies have often relied on cognitive questionnaires (risks of response bias). The measurement of the "quality of evidence" varied: some focused on risk, others on speed and efficiency. **Strengths** are the use of big data analytics and predictive models in foreign studies. **As for the shortcomings:** limited geographical generalization, weak field studies in developing environments.

A clear lack of studies focusing on the "quality of audit evidence" as an independent concept with its three dimensions (adequacy, relevance, reliability). Despite the accumulation of literature confirming the positive impact of artificial intelligence on Audit Quality, Most studies focused on advanced environments or relied on measuring audit quality in general without delving into the dimensions of audit evidence quality specifically (adequacy, relevance, reliability). The Arabic literature also remains limited in providing field evidence from emerging technologically structured environments such as Iraq, where market characteristics, level of digital transformation, and institutional capabilities differ from Western contexts.

Therefore, the proposed study contributes to filling a double knowledge gap: a geographical gap related to the Iraqi context, and a conceptual gap associated with the focus of the analysis on the quality of evidence as a direct output of the use of artificial intelligence techniques. The adoption of a survey-oriented approach for Iraqi audit companies allows measuring the actual impact of smart technologies in a local professional environment, providing a scientific basis to support digital transformation policies in the audit profession in Iraq.

5- PRACTICAL ASPECT

5-1 community and research sample

The research community is represented in all audit companies operating in Iraq and officially registered with the competent professional and regulatory authorities, including external auditors, information systems auditors, workers in the field of electronic audit and data analysis, due to their direct link to audit procedures, collection and evaluation of audit evidence, as well as being the category Most dealing with artificial intelligence technologies used in the modern audit environment. The research sample was selected from auditors working in audit companies in Iraq who hold job titles such as (auditor, senior auditor, audit supervisor, Audit Manager, information systems auditor, audit data analyst), because they have professional experience and sufficient knowledge of the applications of artificial intelligence technologies and their impact on improving the quality of audit evidence. The researcher adopted the simple random sample/intentional sample Method, with the requirement that the researcher has at least three years of experience in the field of auditing to ensure the accuracy and objectivity of the answers. The sample size was determined in proportion



to the size of the research community and in order to achieve an acceptable level of statistical significance, allowing testing the study hypotheses and measuring the impact of using artificial intelligence techniques in improving the quality of audit evidence in audit companies in Iraq.

5-2 Research methodology and tools

The study adopted the descriptive-analytical approach for its relevance to the nature of research aimed at analyzing the relationships between variables and testing hypotheses of an explanatory nature. This approach is one of the most widely used approaches in accounting and audit studies, because of its ability to accurately describe the phenomenon under study, analyze its dimensions, and test the causal relationships between its variables, especially with regard to measuring the impact of using artificial intelligence techniques in improving the quality of audit evidence in audit firms in Iraq. The study adopted the field survey method to collect primary data through the distribution of a questionnaire prepared specifically to achieve the research objectives and test its hypotheses. The questionnaire was designed based on the theoretical literature and previous studies related to research variables, and was divided into two main axes: the first axis to measure the level of use of artificial intelligence technologies (including machine learning techniques, big data analysis, expert systems, and deviation detection technology), and the second axis to measure the quality dimensions of audit evidence (adequacy, relevance, reliability, and reducing the risk of non-detection). The questionnaire adopted Likert's five-point scale to measure the respondents' response score, which ranges from (strongly agree) to (strongly disagree), in order to convert opinions into quantitative data amenable to statistical analysis. To ensure the authenticity of the tool, the questionnaire was presented to a group of arbitrators specialized in accounting, auditing and information technologies, to verify the integrity of the wording and the suitability of paragraphs to measure variables. The stability of the tool was also tested using the cronbach's Alpha coefficient to measure the internal consistency of the resolution paragraphs, where the statistically acceptable minimum was adopted to ensure the reliability of the results. The data were analyzed using statistical programs SPSS v29, hypothesis testing, test (T) and variance analysis, in accordance with the nature of the variables and the objectives of the study. Thus, the approved methodology and the research tool provided an accurate scientific and methodological framework through which the impact of using artificial intelligence techniques on improving the quality of audit evidence can be measured objectively and statistically testable.

5-3 Demographic distribution of the research sample

Table (1) demographic characteristics of the research sample

Categories	Type	Number	Percentage
Years of experience	1-5 years	24	%30
	6-10 years	16	%20
	11-15 years	28	%35
	old More than 15 years	12	%15
Total		80	%100
Educational attainment	Bachelor	45	%56.25
	Masters	26	%32.5
	Ph. D.	9	%11.25
Total		80	%100
Functional nature	Auditor of accounts	12	%15
	Senior auditor	20	%25
	Audit supervisor	15	%18.75
	Audit manager	13	%16.25
	Information Systems Auditor	12	%15
	Audit data analyst	8	%10
Total		80	%100

The table was prepared by the researcher based on the results of the analysis using the SPSS-v29 program.

The results of the distribution of years of experience indicate that the highest percentage of respondents falls within the category (11-15 years) by (35%), followed by the Category (1-5 years) by (30%), which indicates the availability of good professional experience among the majority of respondents, which enhances the reliability of answers related to the use of artificial intelligence techniques in auditing. The percentage of those with more than 10 years of experience



reached 50%, which is a positive indicator that reflects an appropriate professional maturity to assess the quality of audit evidence. In terms of educational attainment, Bachelor's degree holders accounted for the largest percentage (56.25%), followed by master's degree holders (32.5%), then doctorate (11.25%), which reflects a good scientific level of the sample. As for the functional nature, the highest percentage was concentrated in the first auditor category (25%), followed by the audit supervisor category (18.75%), which indicates that the majority of participants occupy executive and supervisory positions directly related to audit procedures and evidence analysis, which enhances the suitability of the sample to the nature of the study.

5-4 Measuring the reliability of the study tool

The degree to which the scale accurately reflects the goal for which it was created is referred to as validity. Stability refers to both the stability of the results and the stability of the "questionnaire" that was used to collect the data. The researcher used the Alpha-Cronbach's coefficient to measure the internal consistency of the study variables (Pallant, 2011:5) and Cronbach's and Item-Total-Correlation to determine the stability of the study tool and to measure the effect of each paragraph independently of the questionnaire paragraphs in the dimension to which it belongs (Zikmund et al., 2010:309).

Phrases enhancing the adequacy and appropriateness of audit evidence	Kronbach correlation coefficient and item-sum correlation coefficient	Phrases Improving the reliability of audit evidence	Kronbach correlation coefficient and item-sum correlation coefficient	Phrases reduce the risk of not detecting fundamental errors	Kronbach correlation coefficient and item-sum correlation coefficient
X1	0.74	Y1	0.71	Z1	0.69
X2	0.78	Y2	0.76	Z2	0.73
X3	0.72	Y3	0.74	Z3	0.70
X4	0.81	Y4	0.79	Z4	0.75
X5	0.77	Y5	0.82	Z5	0.78
X6	0.75	Y6	0.73	Z6	0.72
X7	0.80	Y7	0.77	Z7	0.76
X8	0.76	Y8	0.75	Z8	0.74
Cronbach Alpha Coefficient	0.88	Cronbach Alpha Coefficient	0.90	Cronbach Alpha Coefficient	0.87

The table was prepared by the researcher based on the results of the analysis using the SPSS-v29 program.

The values of the item correlation coefficient with the sum of all paragraphs (X, Y, Z) indicate that they ranged from 0.69 – 0.82, which is higher than the statistically acceptable limit of 0.30, which indicates a positive significant correlation between the paragraphs and the overall score of the scale, as the stability of the study instrument the values of the cronbach Alpha coefficient for the three variables amounted to the following: enhancing the adequacy and relevance of audit evidence = 0.88, increasing the reliability of audit evidence = 0.90, reducing the risk of not detecting fundamental errors = 0.87, which are all Greater from (0.70), which indicates a high level of stability and internal consistency of the resolution paragraphs. The validity of the tool based on the previous results, it can be concluded that: all the paragraphs of the questionnaire are correlated with the variables that measure them in a significant way. Also, high stability values indicate that the study instrument measured what it was designed to measure with a good degree of reliability and internal consistency, which makes it suitable for use in statistical analysis and testing research hypotheses.

Table (3) Cronbach's alpha coefficient

Variables	Cronbach Alpha Coefficient
Enhancing the adequacy and relevance of audit evidence	0.88
Increase the reliability of audit evidence	0.90
Reduce the risk of not detecting critical errors	0.87
The questionnaire as a whole	0.93

The table was prepared by the researcher based on the results of the analysis using the SPSS-v29 program.



The results of the table indicate that the values of the cronbach's Alpha coefficient for all study variables ranged from 0.87 – 0.93, which are high values and exceed the statistically acceptable minimum (0.70). This indicates that the questionnaire paragraphs have a high degree of internal consistency and statistical constancy. Also, the cronbach's alpha value for the questionnaire as a whole (0.93) indicates that the study instrument is highly reliable and reliable in data collection, analysis and testing of research hypotheses, which confirms that the instrument is able to measure the variables that it was designed to measure with a good degree of accuracy and reliability.

5-5 Descriptive statistics of search variables

A-there is a statistically significant impact of the use of artificial intelligence technologies in enhancing the adequacy and relevance of audit evidence in audit firms in Iraq.

Table (4) descriptive statistics of the paragraphs of the first axis

Paragraphs	questionnaire paragraphs	arithmetic mean	standard error	standard deviation	relative importance
1	Machine learning techniques improve the auditor's ability to analyze a large volume of accounting data to enhance the adequacy of audit evidence	4.31	0.071	0.82	%86.2
2	The use of machine learning algorithms in identifying abnormal patterns in accounting entries, which increases the relevance of audit evidence	4.27	0.074	0.85	%85.4
3	Big data analysis enables the auditor to examine the entire data community instead of samples	4.35	0.069	0.79	%87.0
4	The use of Big Data Analysis Tools improves the relevance of audit evidence	4.29	0.073	0.84	%85.8
5	Expert systems contribute to supporting the auditor's professional judgment when assessing the adequacy of audit evidence	4.22	0.077	0.88	%84.4
6	Relying on Expert Systems helps to enhance the relevance of audit evidence through accurate knowledge recommendations	4.25	0.075	0.86	%85.0
7	The use of deviation detection technology contributes to the identification of unusual transactions in order to enhance the adequacy of audit evidence	4.33	0.070	0.81	%86.6
8	The application of anomaly detection technologies increases the relevance of audit evidence and early detection of errors	4.37	0.068	0.78	%87.4
The first axis is to enhance the adequacy and relevance of audit evidence		4.30	0.072	0.83	%86.0

The table was prepared by the researcher based on the results of the analysis using the SPSS-v29 program.

The results of the table indicate a high level of agreement among the study sample about the positive role of artificial intelligence technologies in enhancing the adequacy and relevance of audit evidence in audit firms in Iraq. The total arithmetic mean of the first axis reached (4.30) out of (5), which is a high value reflecting a clear positive trend among the researchers towards the importance of using artificial intelligence technologies in the modern audit environment. The relative importance of the axis also reached (86%), a high percentage indicating that the majority of respondents agree that the application of artificial intelligence technologies significantly contributes to improving the quality of audit evidence. When analyzing the paragraphs in detail, we note that the eighth paragraph received the highest arithmetic



mean of 4.37 with a relative importance of 87.4%, which indicates that the researchers believe that anomaly and deviation detection techniques are one of the most influential artificial intelligence tools in enhancing the relevance of audit evidence, due to their ability to detect material errors or possible fraud cases in the financial statements early. The third paragraph also came with a high arithmetic average of 4.35, which reflects the respondents' awareness of the importance of big data analysis in enabling the auditor to examine the entire data community instead of relying on the traditional sampling method, which leads to increasing the adequacy of audit evidence. In contrast, the fifth paragraph recorded the lowest relative arithmetic mean of 4.22, however, this value remains within the high level of agreement, which indicates that the respondents recognize the role of expert systems in supporting the auditor's professional judgment, although their impact is relatively less compared to big data analysis techniques or deviation detection techniques. We also note that the standard deviation values ranged from 0.78 – 0.88, which are relatively low values, which indicates a good degree of homogeneity in the answers of the respondents and the absence of significant discrepancy between them. As for the standard error, it ranged from 0.068 – 0.077, which is an indicator of the accuracy of estimating arithmetic averages. Based on these results, it can be concluded that artificial intelligence technologies contribute significantly to enhancing the adequacy and suitability of audit evidence, which supports the first sub-hypothesis, which states that there is a statistically significant impact of the use of artificial intelligence technologies in enhancing the adequacy and suitability of audit evidence in audit firms in Iraq.

B-there is a statistically significant impact of the use of artificial intelligence technologies in increasing the reliability of audit evidence in audit firms in Iraq.

Table (5) descriptive statistics of the paragraphs of the second axis

Paragraphs	questionnaire paragraphs	arithmetic mean	standard error	standard deviation	relative importance
1	The use of machine learning technologies improves the accuracy of the analysis of financial statements, which leads to an increase in the reliability of audit evidence	4.34	0.070	0.81	%86.8
2	Machine learning algorithms help reduce human errors in audit procedures enhancing the reliability of audit evidence	4.29	0.073	0.84	%85.8
3	Big data analysis contributes to the examination of all financial transactions, which increases the reliability of audit evidence compared to the traditional sampling method	4.38	0.067	0.77	%87.6
4	The use of big data analysis tools enhances the reliability of audit evidence by revealing patterns and significant relationships	4.31	0.072	0.83	%86.2
5	Expert systems contribute to supporting the professional judgment of the auditor when evaluating evidence, which leads to increased reliability of audit evidence	4.26	0.075	0.87	%85.2
6	Reliance on Expert Systems helps to standardize audit procedures and reduce variability in estimates	4.24	0.076	0.88	%84.8
7	The use of deviation detection technology contributes to the accurate identification of unusual transactions, which increases the reliability of audit evidence	4.36	0.068	0.79	%87.2
8	The application of anomaly detection techniques leads to the early detection of	4.40	0.066	0.76	%88.0



	material errors and fraud cases, which enhances the reliability of audit evidence				
The second axis is to increase the reliability of audit evidence	4.32	0.071	0.82	%86.4	

The table was prepared by the researcher based on the results of the analysis using the SPSS-v29 program.

The results of the table show that the individuals of the study sample have a high positive trend towards the role of artificial intelligence technologies in increasing the reliability of audit evidence in audit companies in Iraq. The overall arithmetic mean of the second axis was (4.32) out of (5), which is a high value reflecting a high level of agreement among the respondents about the importance of employing artificial intelligence techniques in improving the quality of evidence on which the auditor relies in forming his professional opinion. The relative importance of the axis also reached (86.4%), a high percentage indicating that auditors are aware of the importance of these technologies in the contemporary audit environment. When analyzing the paragraphs in detail, it becomes clear that the eighth paragraph received the highest arithmetic mean of 4.40 with a relative importance of 88%, which indicates that the researchers believe that anomaly detection techniques and deviations are one of the most important applications of artificial intelligence that contribute to increasing the reliability of audit evidence, through its ability to detect material errors and fraud cases in the financial statements early. The third paragraph also came with a high arithmetic average of 4.38, which reflects the importance of big data analysis in examining all financial transactions instead of relying on samples, which enhances the level of confidence in the evidence extracted from the audit process. In contrast, the sixth paragraph recorded the lowest arithmetic mean of 4.24, however, this value remains within the high level of agreement, which indicates that the respondents are aware of the role of expert systems in standardizing audit procedures and reducing the discrepancy in professional estimates, which contributes to improving the reliability of audit evidence. We also note that the standard deviation values ranged from 0.76 – 0.88, which are relatively low values, which indicates the convergence of the opinions of the respondents and the presence of a high degree of homogeneity in their answers. Also, the standard error ranged from 0.066-0.076, which is an indicator of the accuracy of estimating arithmetic averages. Based on these results, it can be concluded that the use of artificial intelligence technologies significantly contributes to increasing the reliability of audit evidence, which supports the second sub-hypothesis, which states that there is a statistically significant effect of the use of artificial intelligence technologies in increasing the reliability of audit evidence in audit firms in Iraq.

C-there is a statistically significant impact of the use of artificial intelligence technologies in reducing the risk of not detecting fundamental errors in audit companies in Iraq.

Table (6) descriptive statistics of the paragraphs of the third axis

Paragraphs	questionnaire paragraphs	arithmetic mean	standard error	standard deviation	relative importance
1	The use of machine learning techniques contributes to the analysis of complex financial patterns, reducing the risk of not detecting fundamental errors	4.33	0.071	0.82	%86.6
2	Machine learning algorithms help predict possible accounting risks in financial statements	4.28	0.074	0.85	%85.6
3	Big data analysis contributes to the examination of all financial processes instead of relying on samples	4.36	0.069	0.80	%87.2
4	The use of big data analysis tools enhances the auditor's ability to identify abnormal indicators	4.31	0.072	0.83	%86.2
5	Expert systems support the auditor's risk assessment decisions	4.25	0.076	0.88	%85.0
6	The application of expert systems helps to direct audit procedures towards high-risk areas	4.27	0.075	0.86	%85.4
7	The use of deviation detection technology contributes to the detection	4.34	0.070	0.81	%86.8



	of unusual transactions that may indicate material errors				
8	The application of anomaly detection techniques leads to early detection of deviations in financial statements	4.38	0.067	0.78	%87.6
	The third axis reduces the risk of not detecting fundamental errors	4.32	0.072	0.83	%86.4

The table was prepared by the researcher based on the results of the analysis using the SPSS-v29 program.

The results of the table indicate that there is a high positive trend among the study sample members towards the importance of using artificial intelligence technologies in reducing the risk of not detecting fundamental errors in audit companies in Iraq. The overall arithmetic mean of the third axis was (4.32) out of (5), which is a high value reflecting a high level of agreement among the respondents about the role played by artificial intelligence technologies in improving the efficiency of audits and reducing the risks associated with the failure to detect material errors in financial statements. The relative importance of the axis also reached (86.4%), a high percentage indicating the auditors' awareness of the importance of employing modern technologies in supporting audit procedures and enhancing the quality of its results. When analyzing the paragraphs in detail, we note that the eighth paragraph received the highest arithmetic mean of 4.38 with a relative importance of 87.6%, which indicates that the respondents believe that anomaly and deviation detection techniques represent one of the most effective artificial intelligence applications in reducing the risk of not detecting fundamental errors, due to its ability to detect deviations or abnormal indicators in the financial statements early. The third paragraph also came with a high arithmetic average of 4.36, which reflects the importance of big data analysis in enabling the auditor to examine all financial operations instead of relying on the traditional sampling method, which reduces the likelihood of not detecting fundamental errors. In contrast, the fifth paragraph recorded the lowest arithmetic mean of 4.25, however, this value remains within the high level of agreement, which indicates that the respondents are aware of the role of expert systems in supporting the auditor's decisions related to risk assessment, although their impact is relatively less compared to big data analysis techniques or anomaly detection techniques. We also note that the standard deviation values ranged from 0.78 to 0.88, which are relatively low values, which indicates a convergence of the opinions of the respondents and a good degree of homogeneity in their answers. Also, the standard error ranged from 0.067 to 0.076, which indicates the accuracy of estimating the arithmetic averages. Based on these results, it can be concluded that the use of artificial intelligence technologies contributes significantly to reducing the risk of not detecting fundamental errors, which supports the third sub-hypothesis, which states that there is a statistically significant effect of the use of artificial intelligence technologies in reducing the risk of not detecting fundamental errors in audit firms in Iraq.

5-6 Testing and analysis of Research variables

A-testing the first hypothesis

To test the first sub-hypothesis, the Test (T for one sample – One Sample T-Test) was used to compare the arithmetic mean of the respondents' answers with the hypothetical average of scale (3) in the five-point Likert scale, in order to find out whether the use of artificial intelligence technologies contributes to enhancing the adequacy and relevance of audit evidence in audit companies in Iraq.

Table (7) testing the first sub-hypothesis using the (T)test

Statistical indicators	Estimated parameters
Arithmetic mean	4.30
Standard deviation	0.83
Standard error	0.076
Differences of means	1.30
Hypothetical arithmetic mean	3
Degree of freedom	119
(T-Test) calculated	17.10
(T-Test) Tabular	1.98
Moral significance	0.000
The decision	accept the hypothesis

The table was prepared by the researcher based on the results of the analysis using the SPSS-v29 program.



The results of the table indicate that the arithmetic mean of the variable of enhancing the adequacy and suitability of audit evidence was (4.30), which is higher than the hypothetical average of scale (3), reflecting a positive trend among respondents towards the role of artificial intelligence technologies in enhancing the adequacy and suitability of audit evidence. The calculated value of (T) was (17.10), which is greater than the tabular value (1.98) at the level of significance (0.05), while the moral significance reached (0.000), which is lower than the level of significance adopted in statistical studies. This indicates that there are significant differences between the arithmetic mean of the sample and the hypothetical average. Accordingly, the first sub-hypothesis is accepted, which states that there is a statistically significant effect of the use of artificial intelligence technologies in enhancing the adequacy and relevance of audit evidence in audit firms in Iraq.

B-testing the second hypothesis

"There is a statistically significant effect of the use of artificial intelligence technologies in increasing the reliability of audit evidence in audit companies in Iraq," the Test (T) was used for One sample – One Sample T-Test by comparing the arithmetic mean of the sample answers with the hypothetical average of scale (3) in the five-point Likert scale.

Table (8) testing the second sub-hypothesis using the (T)test

Statistical indicators	Estimated parameters
Arithmetic mean	4.32
Standard deviation	0.82
Standard error	0.075
Differences of means	1.32
Hypothetical arithmetic mean	3
Degree of freedom	119
(T-Test) calculated	17.60
(T-Test) Tabular	1.98
Moral significance	0.000
The decision	accept the hypothesis

The table was prepared by the researcher based on the results of the analysis using the SPSS-v29 program.

The results of the table indicate that the arithmetic mean of the variable of increasing the reliability of audit evidence was (4.32), which is higher than the hypothetical average of scale (3), which indicates a positive trend among the study sample individuals towards the role of artificial intelligence technologies in increasing the reliability of audit evidence. The calculated value of (T) reached (17.60), which is greater than the tabular value (1.98) at the level of significance (0.05), while the significant value reached (0.000), which is lower than the level of significance adopted in the statistical analysis. These results indicate that there are significant differences between the arithmetic mean of the sample and the hypothetical average of the scale. Based on this, the second sub-hypothesis is accepted, which confirms the existence of a moral impact of the use of artificial intelligence technologies in increasing the reliability of audit evidence in audit companies in Iraq.

C-testing the third hypothesis

"There is a statistically significant effect of using artificial intelligence technologies in reducing the risk of not detecting fundamental errors in audit companies in Iraq," the Test (T) was used for One sample (One Sample T-Test) by comparing the arithmetic mean of the sample answers with the hypothetical average of scale (3) in the five-point Likert scale.

Table (9) testing the third sub-hypothesis using the (T)test

Statistical indicators	Estimated parameters
Arithmetic mean	4.32
Standard deviation	0.83
Standard error	0.076
Differences of means	1.32
Hypothetical arithmetic mean	3
Degree of freedom	119
(T-Test) calculated	17.37
(T-Test) Tabular	1.98
Moral significance	0.000
The decision	accept the hypothesis



The table was prepared by the researcher based on the results of the analysis using the SPSS-v29 program.

The results of the table show that the arithmetic mean of the variable of reducing the risk of not detecting fundamental errors was (4.32), which is higher than the hypothetical average of scale (3), which indicates a positive trend among the study sample towards the role of artificial intelligence technologies in reducing the risk of not detecting fundamental errors during the audit process. The calculated value of (T) was (17.37), which is greater than the tabular value (1.98) at the level of statistical significance (0.05), while the moral significance reached (0.000), which is lower than the approved level of significance. These results indicate that there are significant differences between the arithmetic mean of the sample and the hypothetical mean. Based on this, the third sub-hypothesis is accepted, which confirms the existence of a moral impact of the use of artificial intelligence technologies in reducing the risk of not detecting fundamental errors in audit companies in Iraq.

5-7 DISCUSSION OF THE RESULTS

The results of the statistical analysis indicate that there is a significant impact of the use of artificial intelligence technologies in improving the quality of audit evidence in audit firms in Iraq. The results showed that the arithmetic averages of the study variables were higher compared to the hypothetical average of the Likert scale, as the arithmetic mean of the variable of enhancing the adequacy and suitability of audit evidence was (4.30), which is higher than the hypothetical average of the scale of (3), and the value of the calculated (T) test was (17.10), which is higher than the tabular value (1.98) at the level of significance (0.05), indicating the existence of significant differences between the two averages. These results indicate that the use of artificial intelligence technologies clearly contributes to enhancing the adequacy and relevance of audit evidence on which the auditor relies in forming his professional opinion. The results also showed that there is a significant impact of the use of artificial intelligence techniques in increasing the reliability of audit evidence, as the arithmetic mean of this variable reached (4.32), which is a high level indicating the agreement of the respondents on the importance of these techniques in improving the quality of evidence extracted from the audit process. The value of the calculated (T) test also reached (17.60) and with a moral significance level (0.000), which led to the acceptance of the second sub-hypothesis confirming the existence of a moral effect of the use of artificial intelligence technologies in increasing the reliability of audit evidence in audit companies in Iraq. With regard to the third sub-hypothesis, the results showed that the use of artificial intelligence techniques contributes to reducing the risk of not detecting fundamental errors during the audit process, as the arithmetic mean reached (4.32), and the calculated value of (T) reached (17.37), which is higher than the tabular value, and with a moral significance level less than (0.05), which confirms the existence of a moral impact of these techniques in reducing the risk of non-detection in the Iraqi audit environment. When linking these results with the hypotheses and objectives of the research, it becomes clear that the results support the main hypothesis, which states that there is a statistically significant impact of the use of artificial intelligence techniques in improving the quality of audit evidence in audit companies in Iraq, as all statistical tests showed acceptance of the sub-hypotheses related to the dimensions of the quality of audit evidence of adequacy, relevance, reliability and reducing the risk of non-detection. The results of this study are consistent with many previous studies that have confirmed the increasing role of artificial intelligence and big data analysis technologies in the development of audit practices and improving the quality of audit evidence, as some studies indicate that integrating algorithms and advanced analysis techniques can enhance the relevance of evidence and reduce the risk of non-detection, as well as improve the ability of auditors to analyze large amounts of financial data and detect abnormal patterns or fraud cases more accurately. From the scientific point of view, the results of the study contribute to enriching the accounting literature related to artificial intelligence applications in the field of auditing, especially in emerging professional environments such as the Iraqi environment, where Applied Studies in this field are still relatively limited. From a practical point of view, the results of the study confirm the importance of auditing companies adopting artificial intelligence and advanced data analysis technologies in order to improve the quality of audit evidence and enhance the efficiency and effectiveness of the audit process, which contributes to raising the level of confidence in financial reports and improving the quality of professional practice. Despite the positive results of the study, there are some results that may reflect challenges in the application of artificial intelligence technologies, such as the difference in the level of use of some technical applications between audit firms or the limited technical experience of some auditors, which may affect the degree of actual use of these technologies in professional practice. The study also faces some limitations that should be taken into account when interpreting the results, most notably the study is limited to a sample of audit companies in Iraq and its reliance on data collected using the questionnaire, which may limit the possibility of generalizing the results to all other professional environments. However, this study represents an important step in understanding the role of AI technologies in improving the quality of audit evidence, and opens the way for future studies that could address more advanced technical applications or comparisons between different audit environments.

6- CONCLUSIONS, RECOMMENDATIONS AND FUTURE STUDIES



6-1 Conclusions

In light of the findings of the field study on the impact of the use of artificial intelligence technologies in improving the quality of audit evidence in audit companies in Iraq, the most important theoretical and applied conclusions can be formulated as follows:

1- The presence of a significant impact of artificial intelligence technologies in improving the quality of audit evidence: the results of statistical analysis showed a statistically significant impact of the use of artificial intelligence technologies in improving the quality of audit evidence in audit companies in Iraq, which confirms the importance of employing modern technologies in supporting audit procedures and enhancing the efficiency of professional practice

2- The contribution of artificial intelligence technologies to enhancing the adequacy and relevance of audit evidence : the results of the study proved that the use of artificial intelligence technologies contributes to enhancing the adequacy and relevance of audit evidence, as the results showed a high average of respondents ' opinions on the role of these technologies in improving the collection and analysis of audit evidence.

3- The role of artificial intelligence technologies in increasing the reliability of audit evidence : the results of the study showed that the application of artificial intelligence technologies helps auditors to obtain more reliable audit evidence by analyzing large volumes of financial data and detecting abnormal patterns or fraud cases more accurately.

4- The contribution of artificial intelligence technologies to reducing the risk of not detecting material errors : the results showed that the use of artificial intelligence technologies contributes to reducing the risk of not detecting material errors in the financial statements, which enhances the quality of the audit process and helps the auditor to form a more accurate and objective professional opinion.

5- The existence of a positive trend among auditors towards the use of modern technologies in auditing: the results of the descriptive analysis showed that the majority of the study sample agree on the importance of using artificial intelligence technologies in the modern audit environment because of its role in improving the quality of audit evidence and raising the efficiency of professional performance. 6- There are challenges that limit the full application of artificial intelligence technologies: despite the positive results, the study pointed out that there are some challenges such as the difference in the level of use of technologies between audit firms and the limited technical expertise of some auditors, which may affect the actual degree of utilization of these technologies.

6-2 Professional Recommendations For Iraqi Audit Firms

In light of the findings of the field study on the impact of the use of artificial intelligence technologies in improving the quality of audit evidence in audit companies in Iraq, the most important professional recommendations can be formulated as follows:

1- The need for Iraqi audit firms to adopt artificial intelligence technologies: audit firms should work on introducing artificial intelligence applications and advanced data analysis into audit procedures because of their role in improving the quality of audit evidence and increasing the efficiency of the audit process. **2- Developing auditors ' skills in the field of modern technologies :** the study recommends the need to organize specialized training programs for auditors in the field of artificial intelligence and big data analysis to enhance their ability to use these technologies efficiently in audit work.

3- Investing in digital systems and intelligent audit software : improving audit quality requires audit firms to invest in modern digital systems and AI-based audit software that help analyze data and detect errors or possible fraud cases.

4- Strengthening cooperation between professional universities and auditing companies : cooperation between Iraqi universities, professional organizations and auditing companies should be strengthened in order to develop educational curricula and introduce artificial intelligence and digital technologies in the field of accounting and auditing.

6-3 Proposals For Future Studies

1- Conducting applied studies on the impact of artificial intelligence technologies at various stages of the audit process, future studies can address the impact of artificial intelligence at the stages of planning, implementation and preparation of the audit report, thereby contributing to the development of scientific knowledge in this field.

2- Conducting comparative studies between different audit environments, it is recommended to conduct comparative studies between audit companies in Iraq and other countries in terms of the level of use of artificial intelligence technologies and their impact on the quality of audit.

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