International Journal of Financial, Administrative, and Economic Sciences (IJFAES)

المجلة الدولية للعلوم المالية والإدارية والاقتصادية

Vol. (5), No. (6) June 2026 الإصدار (5)، العدد (6)

The Role of Artificial Intelligence Technologies in Enhancing the Quality of External Audit Evidence: A Field Study on Audit Firms in the Qassim Region

Hamza Abker
Department of Accounting, College of Business and Economics, Qassim University,
P.O. Box: 6640, 51452, Buraydah, Saudi Arabia
habker@qu.edu.sa

Jihene Ghorbel
Department of Accounting, College of Business and Economics, Qassim University,
P.O. Box: 6640, 51452, Buraydah, Saudi Arabia
j.ghorbel@qu.edu.sa

Abstract

The research problem is represented in the fact that audit firms in the Qassim region face several challenges related to the quality of external audit evidence, such as the limited sufficiency and relevance of audit evidence and the difficulty of ensuring its reliability. This may negatively affect the effectiveness of the audit process and the issuance of an independent audit opinion. This study aims to examine the impact of using artificial intelligence technologies on improving the quality of external audit evidence by measuring their effect on the sufficiency, relevance, and reliability of audit evidence. The field research methodology was adopted, whereby 120 questionnaires were distributed to external auditors working in audit firms, and 100 valid questionnaires were analyzed using descriptive statistical methods (mean, standard deviation, t-test, and Chi-square test) and inferential statistical analysis (correlation and regression) .The study includes two main hypotheses concerning the impact of artificial intelligence on the sufficiency and reliability of external audit evidence .The results indicate that the majority of respondents tend to agree or strongly agree on the positive impact of artificial intelligence on the quality of audit evidence, with strong statistical significance for all statements. Furthermore, the correlation and regression analyses reveal a strong and positive relationship between the use of artificial intelligence and both the sufficiency and reliability of audit evidence, with explanatory power reaching up to 71%. Accordingly, the study recommends enhancing auditors' training on artificial intelligence tools, developing the technological infrastructure of audit firms, integrating intelligent systems across all stages of the audit process, and establishing standardized guidelines to ensure the improvement of external audit evidence quality and to enhance the overall effectiveness of the audit process.

Keywords: Artificial Intelligence, Audit Evidence Quality, External Audit, Audit Firms.

1. Introduction

The rapid digital transformations taking place worldwide have brought fundamental changes to the practices of the accounting and auditing profession, as traditional methods are no longer able to keep pace with the increasing complexity of modern economic and financial environments. In this context, artificial intelligence (AI) has emerged as one of the most significant technological developments reshaping external audit processes, particularly in planning audit engagements, performing audit procedures, assessing risks, and collecting and analysing audit evidence.

External audit evidence forms the cornerstone upon which the auditor bases their professional opinion regarding the fairness of financial statements and their freedom from material misstatements. According to International Standards on Auditing (ISA), audit evidence must be sufficient, appropriate, and reliable. However, reliance on traditional sampling techniques and manual inspection restricts the auditor's ability to evaluate the full population of financial data, especially in light of the exponential growth in data volume, diversity of information sources, and increasing speed of financial transactions.

In response to these challenges, artificial intelligence technologies—such as machine learning, big data analytics, expert systems, and fraud detection tools—provide auditors with advanced capabilities to analyze complete datasets rather than limited samples, identify abnormal patterns, and predict high-risk areas with greater accuracy. These technologies also enhance auditors' professional judgment by delivering timely and data-driven insights, thereby improving the overall quality of external audit evidence and audit effectiveness.

Despite the growing importance of artificial intelligence in auditing practices, the level of its adoption and implementation in Saudi audit firms remains uneven, particularly in regions outside major metropolitan areas. The Qassim region represents a relevant context for this study due to the diversity of audit firms operating there, as well as variations in their size and technological readiness. Accordingly, this study seeks to examine the actual role of artificial intelligence technologies in enhancing the quality of external audit evidence in audit firms within the Qassim region.

Research Problem:

With the increasing reliance on digital technologies, external audit firms face growing challenges in ensuring the quality of audit evidence in an environment characterized by complex financial transactions and heightened risks of error and fraud. Although artificial intelligence technologies offer significant potential to improve the sufficiency, appropriateness, and reliability of audit evidence, their actual impact within audit firms in the Qassim region remains underexplored. Therefore, the main research question is: **To what extent does the use of artificial intelligence technologies contribute to improving the quality of external audit evidence in audit firms in the Qassim region?**

This main question is divided into the following sub-questions:

- To what extent does the use of artificial intelligence technologies improve the sufficiency of external audit evidence in audit firms in the Qassim region?
- What is the impact of artificial intelligence technologies on the appropriateness of external audit evidence and the enhancement of auditors' professional judgment?
- To what extent does artificial intelligence contribute to improving the reliability of external audit evidence and reducing errors and misstatements?
- What is the level of adoption and use of artificial intelligence technologies in audit firms in the Qassim region from the perspective of external auditors?

Research Objectives:

This study aims to assess the level of artificial intelligence adoption in external audit firms in the Qassim region and empirically investigate the relationship between artificial intelligence technologies and external audit evidence quality. It further evaluates the impact of artificial intelligence on the core dimensions of audit evidence quality, namely sufficiency, appropriateness, and reliability. Finally, the study proposes an applied framework to support audit firms in effectively integrating artificial intelligence technologies to enhance audit quality and improve audit-related decision-making.

Significance of the Study:

This study contributes to the auditing literature by extending empirical evidence on the relationship between artificial intelligence technologies and external audit evidence quality. It addresses a gap in the Saudi auditing context, particularly in regional audit firms, regarding the practical application of artificial intelligence in auditing practices.

From a theoretical perspective, the study enhances understanding of how artificial intelligence technologies influence the key dimensions of audit evidence quality, namely sufficiency, appropriateness, and reliability. From a practical perspective, it provides evidence-based insights into how audit firms can leverage artificial intelligence to improve audit effectiveness and reduce audit risks. It also supports regulatory and professional bodies in updating auditing standards and frameworks in line with digital transformation and the increasing adoption of artificial intelligence technologies.

Overall, the study provides empirical evidence from Saudi audit firms on the role of artificial intelligence in enhancing external audit evidence quality and improving audit practice in a rapidly evolving technological environment.

2. Theoretical Framework

The modern business environment is characterized by increasing complexity in financial operations and a massive growth in data volumes, which has made traditional auditing tools insufficient to meet the requirements of quality and reliability in external audit reports. In light of this challenge, artificial

intelligence (AI) has emerged as one of the most important technologies driving a fundamental transformation in the work patterns of auditors, by enabling them to analyze large volumes of data, detect hidden relationships within such data, and provide more accurate and sufficient audit evidence.

The quality of audit evidence represents the cornerstone of forming the external auditor's opinion in accordance with the International Standards on Auditing (ISA). Therefore, linking artificial intelligence technologies with the quality of audit evidence is considered a topic of significant academic and practical importance in the contemporary context.

2.1. Artificial Intelligence:

Concept of Artificial Intelligence:

Artificial Intelligence (AI) is defined as a branch of computer science that aims to design systems and software capable of simulating human cognitive abilities, such as learning, reasoning, decision-making, and problem-solving, through the use of advanced algorithms and data-driven mathematical models (Russell & Norvig, 2021).

In the accounting field, artificial intelligence refers to the application of intelligent technologies in analysing financial data, detecting unusual patterns, assessing risks, and supporting the professional judgment of accountants and auditors, thereby contributing to the enhancement of efficiency and the quality of professional performance (Vasarhelyi et al., 2017).

Types and Models of Artificial Intelligence:

Artificial intelligence can be classified into several types according to the level of functional capabilities, the most prominent of which are (Russell & Norvig, 2021):

Narrow Artificial Intelligence (Narrow AI): This type is used to perform specific tasks, such as fraud detection and financial data analysis.

General Artificial Intelligence (General AI): This type aims to simulate human intelligence across multiple tasks and is still in the stage of research and development.

The artificial intelligence models used in external auditing include the following:

Machine Learning Models: These enable systems to learn from data in order to predict future outcomes.

Artificial Neural Networks (ANNs): These simulate the structure of the human brain to analyze non-linear relationships.

Expert Systems: These replicate human expertise in analysis and decision-making.

Data Mining: This refers to the process of discovering hidden patterns and relationships within data sets.

These tools are used to improve the accuracy of analysis and reduce human errors (Appelbaum et al., 2017).

Characteristics of Artificial Intelligence Technologies:

Artificial intelligence technologies are characterized by several features that make them suitable for use in external auditing, the most important of which are:

- Self-learning capability: Through analyzing historical data and improving performance over time.
- Speed and accuracy: In processing large and complex datasets.
- Continuity: Operating without interruption while reducing human errors.
- Predictive analytics: Supporting the forecasting of future financial risks.

These characteristics contribute to enhancing the quality of external audit evidence in terms of sufficiency, appropriateness, and reliability (Appelbaum et al., 2017).

Importance of Artificial Intelligence in the External Auditing Profession:

The importance of artificial intelligence in the external auditing profession stems from its ability to process massive volumes of data with speed and accuracy that exceed human capabilities, thereby helping the external auditor expand the scope of examination and reduce audit risks. Artificial intelligence also contributes to strengthening compliance with International Standards on Auditing, particularly those related to risk assessment and the collection of audit evidence (IAASB, 2018).

The significance of artificial intelligence is also reflected in improving audit planning efficiency, reducing time and cost, and increasing the reliability of audit results, which positively enhances the confidence of financial statement users (Kokina & Davenport, 2017).

2.2. Audit Evidence in External Auditing:

Concept of Audit Evidence in External Auditing:

Audit evidence in external auditing refers to all information obtained and evaluated by the external auditor to support the conclusions on which the audit opinion is based regarding the fairness of the financial statements. According to International Standard on Auditing (ISA 500), audit evidence includes accounting records as well as other relevant information gathered from internal and external sources (IAASB, 2022).

Audit evidence is not limited to accounting documents only, but also includes direct observations, inquiries, external confirmations, analytical procedures, recalculations, and comparisons. Such evidence is used to assess management assertions related to the financial statements and to determine whether they are free from material misstatements arising from fraud or error. Therefore, audit evidence constitutes the professional and scientific foundation of the external auditing process.

From an academic perspective, Abu Nassar (2018) states that audit evidence represents the means through which the auditor verifies the accuracy of financial transactions, evaluates the effectiveness of internal control systems, and reduces audit risk. Abu Zaid (2020) further emphasizes that the effectiveness of external auditing largely depends on the quality of audit evidence in terms of its sufficiency, appropriateness, and reliability.

Similarly, Arens, Elder, and Beasley (2020) consider audit evidence to be the core of the auditing process, noting that the diversity of its sources and collection methods strengthens the auditor's ability to detect material errors and misstatements. Messier, Glover, and Prawitt (2021) also explain that evaluating audit evidence requires professional judgment to balance the quantity and quality of evidence in accordance with audit objectives and international standards.

Based on the above, audit evidence in external auditing can be defined as a set of reliable, sufficient, and relevant information collected and analyzed systematically to support the external auditor's professional opinion and enhance the credibility of the audit report for users of financial statements.

Importance of Audit Evidence in External Auditing:

Audit evidence constitutes the foundation upon which the external audit process is built, as the external auditor relies on it to form a professional opinion regarding the fairness, accuracy, and absence of material misstatements in the financial statements, whether due to fraud or error. Professional standards emphasize that the quality of the auditor's opinion is closely linked to the sufficiency and appropriateness of audit evidence obtained during the execution of audit procedures (IAASB, 2022; Abu Nassar, 2018).

The importance of audit evidence is also reflected in enhancing the credibility of the audit report for users of financial statements, as it supports auditor independence and reduces the expectation gap between auditors and stakeholders. The more sufficient and appropriate the evidence, the higher the level of reliance on audit findings and the lower the risk of issuing an inappropriate audit opinion (Arens, Elder & Beasley, 2020; Salem, 2017).

Audit evidence also plays a central role in evaluating the internal control system and identifying areas of material risk, which helps the auditor plan audit procedures more efficiently and effectively. Abu Zaid (2020) notes that the auditor's professional judgment largely depends on the quality, source, and reliability of evidence, especially in light of the complexity of financial operations and the diversity of information sources.

The importance of audit evidence increases further in the modern business environment characterized by digital transformation and technological advancement, where electronic data and computerized systems have become major sources of audit evidence. In this context, Hamdan (2021) emphasizes that the diversity of evidence sources requires auditors to develop their professional skills and analytical methods to ensure the acquisition of high-quality evidence that supports the audit opinion in accordance with international standards. Similarly, Hayes et al. (2019) highlight that the quality of

audit evidence directly contributes to reducing audit risk and enhancing the reliability of the external audit process.

Based on the above, audit evidence is a fundamental element for the success of the external audit process, and improving its quality is an essential requirement for addressing contemporary challenges. This is particularly important in light of the increasing use of modern technologies, which highlights the need to employ advanced tools, including artificial intelligence technologies, to enhance the sufficiency and reliability of audit evidence.

Characteristics of Audit Evidence in External Auditing:

Audit evidence in external auditing is characterized by a set of qualitative attributes that determine its quality and suitability for reliance in forming the external auditor's professional opinion. These attributes represent a fundamental criterion for evaluating the sufficiency, appropriateness, and reliability of audit evidence in accordance with applicable professional standards (IAASB, 2022; Abu Nassar, 2018).

Sufficiency refers to the quantity of audit evidence obtained by the external auditor, which should be appropriate to the level of material risks and the nature of the entity's operations. The higher the risk of misstatement, the greater the amount of evidence required. International standards emphasize that the assessment of sufficiency depends on the auditor's professional judgment and is not subject to fixed quantitative measures (Arens, Elder & Beasley, 2020; Hamdan, 2021).

Appropriateness reflects the quality of audit evidence in terms of its relevance to the audit objective and its ability to support audit conclusions. It includes two main components: relevance and reliability. Evidence is considered appropriate when it is directly related to the financial assertions under examination and helps reduce the auditor's level of uncertainty (Hayes et al., 2019; Abu Zaid, 2020).

Reliability is one of the most important characteristics of audit evidence, as it refers to the degree to which evidence can be depended upon in forming a professional opinion. Evidence becomes more reliable when it is obtained from independent sources outside the audited entity, directly obtained by the auditor, or supported by formal documentation. Written evidence is generally more reliable than oral evidence (Messier, Glover & Prawitt, 2021; Salem, 2017).

Timeliness refers to the period in which audit evidence is obtained. More recent evidence is generally more relevant and reliable than older evidence, particularly when evaluating subsequent events and ongoing operations. Abu Nassar (2018) emphasizes that appropriate timing improves the accuracy of professional judgment and reduces audit risk.

Objectivity refers to the absence of bias or personal influence in audit evidence, which enhances the integrity of the audit process. Evidence becomes more objective when it is based on verifiable quantitative data rather than subjective estimates or managerial judgments (Hayes et al., 2019).

Verifiability refers to the ability of audit evidence to be examined and re-evaluated by another auditor, leading to the same conclusions. This characteristic is essential to ensure consistency in the audit process and to strengthen confidence in audit results, particularly in light of compliance with International Standards on Auditing (IAASB, 2022; Hamdan, 2021).

International standards emphasize that the auditor's professional judgment plays a fundamental role in evaluating the quality of audit evidence (Arens et al., 2020).

2.3. The Relationship Between Artificial Intelligence Technologies and the Quality of External Audit Evidence in Light of Professional Standards:

The rapid development of artificial intelligence technologies has brought about a fundamental transformation in external auditing practices, particularly in relation to the collection of audit evidence and the evaluation of its quality. According to International Auditing Standards, especially International Standard on Auditing (ISA 500), the quality of audit evidence is measured in terms of its sufficiency, appropriateness, and reliability, all of which can be significantly enhanced through the use of artificial intelligence technologies (IAASB, 2022).

Artificial intelligence technologies, such as big data analytics, machine learning, and expert systems, contribute to improving the sufficiency of audit evidence by enabling the auditor to examine the entire population rather than relying on traditional sampling methods. This is consistent with the requirements of ISA 330, which emphasizes the need to design appropriate audit procedures in response to assessed risks, as intelligent tools help expand the scope of examination and increase the volume of available evidence (Hayes et al., 2019; Arens, Elder & Beasley, 2020).

Artificial intelligence technologies also enhance the appropriateness of audit evidence through the analysis of abnormal patterns and the precise identification of high-risk transactions, thereby ensuring the relevance of evidence to the financial assertions under examination. This aligns with ISA 315, which focuses on identifying and assessing risks of material misstatement (IAASB, 2022). Studies indicate that the use of intelligent algorithms helps auditors direct their efforts toward higher-risk areas, supporting professional judgment and improving the effectiveness of audit procedures (Messier, Glover & Prawitt, 2021).

Regarding the reliability of audit evidence, artificial intelligence technologies reduce reliance on subjective judgment, minimize human errors, and enhance consistency in audit procedures. This is in line with ISA 200, which emphasizes the importance of exercising professional skepticism and obtaining sufficient appropriate audit evidence to support the audit opinion. Moreover, intelligent systems contribute to the systematic and automated documentation of audit procedures, thereby enhancing the verifiability and credibility of audit evidence (Knechel et al., 2020; Abu Zaid, 2020).

At the local level, the standards adopted by the Saudi Organization for Chartered and Professional Accountants (SOCPA) emphasize the importance of utilizing modern technologies to enhance audit quality, provided that professional standards are observed and sound professional judgment is

exercised. In this context, Abu Nassar (2018) notes that integrating artificial intelligence technologies into the audit process contributes to improving the quality of audit evidence, provided that adequate professional competence and control mechanisms are in place.

Based on the above, it is clear that the relationship between artificial intelligence technologies and the quality of external audit evidence is a positive one, supported by international auditing standards. These technologies contribute to enhancing the sufficiency, appropriateness, and reliability of audit evidence, reducing audit risk, and improving the effectiveness and efficiency of the external audit process.

2.4. The Reality of Artificial Intelligence Technologies in Audit Firms in the Qassim Region:

Audit firms in the Qassim region, like many other regions within the Kingdom of Saudi Arabia, are witnessing gradual developments in the adoption of artificial intelligence (AI) technologies and data analytics in external auditing processes. However, this adoption remains limited compared to large audit firms in major cities such as Riyadh and Jeddah. This is due to several factors related to the structure of the local market, firm size, and the available technical and human capabilities (Abdullah, 2021).

In practice, the use of artificial intelligence tools in Qassim is often limited to basic applications such as preliminary data analysis software and electronic auditing systems for accounting records, while less experienced firms continue to rely on traditional or semi-automated procedures in collecting audit evidence. This situation may be attributed to a lack of specialized training, high investment costs in advanced AI solutions, and the absence of clear institutional policies supporting technological adoption (Al-Otaibi, 2022).

On the other hand, professional indicators suggest a growing awareness among auditors in Qassim of the importance of modern technologies in enhancing audit quality. Several field surveys have shown that auditors recognize the potential of artificial intelligence in improving the sufficiency of audit evidence and enhancing risk analysis. However, they also point to constraints in resources and the lack of adequate training and professional development programs that would enable full utilization of these technologies (Salem, 2017; Hamdan, 2021).

Furthermore, the organizational and regulatory framework of local audit firms is still evolving with regard to establishing unified standards for the use of artificial intelligence, which affects the level of its application in external auditing. In this context, there is an urgent need to develop a clear regulatory and guidance framework from professional and supervisory bodies to support the effective adoption of modern technologies while ensuring the quality of audit evidence in the Saudi work environment, as emphasized by both local and international literature (IAASB, 2022; Abu Zaid, 2020).

Based on the above, it can be concluded that the reality of artificial intelligence in audit firms in the Qassim region reflects a transitional stage between traditional auditing practices and smart auditing tools, with varying levels of adoption due to differences in institutional, human, and regulatory

capacities. This highlights the need to strengthen training and technological policies to promote the optimal use of artificial intelligence technologies in external auditing.

3. Literature Review and Hypotheses Development

Literature Review:

The integration of artificial intelligence (AI) and digital transformation has significantly reshaped external auditing, driving a transition toward data-intensive and technology-enabled audit environments. The existing literature generally converges on the view that these technological developments enhance audit efficiency, strengthen risk assessment processes, and improve the overall quality of audit evidence. Within the Saudi context, empirical studies such as Abdullah (2021) and Al-Otaibi (2022) provide consistent evidence that the adoption of modern technologies improves the sufficiency, relevance, and reliability of audit evidence. This improvement is attributed to auditors' enhanced ability to process large and complex financial datasets and the resulting reduction in reliance on traditional sampling approaches. These studies further emphasize that digital transformation contributes to reducing audit risk and strengthening the credibility and robustness of audit outcomes. From an international standpoint, Issa et al. (2016) highlight a fundamental methodological shift enabled by AI, where auditors move from sample-based procedures toward full-population data analytics, thereby improving anomaly detection and reducing the likelihood of undetected misstatements. In a complementary perspective, Kokina and Davenport (2017) argue that AI does not substitute professional judgment but rather augments it through advanced analytical capabilities that enhance audit decision-making and improve the quality of audit evidence. More recent empirical contributions, including Khaddar (2024), Alsayed and Alahmari (2024), and Alturki (2025), further reinforce the positive role of AI technologies in enhancing audit transparency, improving financial reporting reliability, increasing efficiency in audit evidence collection, and reducing human error. Nevertheless, these studies consistently indicate that the effectiveness of AI adoption is not automatic but depends on key enabling conditions such as regulatory alignment, organizational readiness, and the maturity of digital infrastructure.

Synthesis of Prior Studies:

A critical synthesis of the reviewed literature reveals three interrelated insights. First, despite the strong consensus regarding the positive impact of AI on auditing practices, audit quality is frequently conceptualized as a broad and aggregated construct. This has resulted in limited analytical attention being given to the multidimensional nature of audit evidence quality, particularly its core dimensions: sufficiency, relevance, and reliability. Second, the majority of empirical evidence is concentrated in large audit firms or technologically advanced environments. This contextual bias limits the generalizability of existing findings and creates uncertainty regarding their applicability in regional or developing audit markets. Third, although Saudi Arabia is actively advancing digital transformation initiatives, empirical research within its auditing environment remains limited,

particularly in emerging regions such as the Qassim region. This indicates a clear imbalance between technological development and academic investigation.

Research Gap:

Based on the above synthesis, a clear and persistent research gap can be identified. The existing literature does not sufficiently explore how AI technologies influence the specific dimensions of external audit evidence quality within real operational audit environments, particularly in regional contexts. More specifically, empirical evidence from audit firms operating in the Qassim region remains underexplored, despite the increasing adoption of digital transformation initiatives in Saudi Arabia's auditing sector. Accordingly, there is a need for a focused empirical investigation that examines the impact of AI technologies on the sufficiency, relevance, and reliability of external audit evidence within audit firms in the Qassim region, in alignment with International Standards on Auditing (ISA).

Hypotheses Development:

Building on the theoretical foundations and empirical evidence discussed above, artificial intelligence technologies are expected to enhance external audit processes through improved data processing capabilities, reduced human error, and strengthened analytical precision. These capabilities align directly with the multidimensional structure of audit evidence quality. Accordingly, the following hypotheses are proposed: H1: There is a statistically significant relationship between the use of artificial intelligence technologies and the sufficiency and relevance of external audit evidence. H2: There is a statistically significant relationship between the use of artificial intelligence technologies and the reliability of external audit evidence.

4. Research Methodology

This study adopts the descriptive-analytical approach, as it is suitable for examining the nature of the relationship between artificial intelligence technologies and the quality of external audit evidence.

4.1. Data Analysis and Hypothesis Testing:

This field study aims to measure the impact of using artificial intelligence technologies on the quality of external audit evidence in audit firms in the Qassim region. To achieve the objectives of the study, a rigorous methodology was adopted, including the design of a specialized questionnaire that is consistent with the study requirements and the characteristics of its population.

Field Study Procedures:

The study began by identifying the study population, which consisted of all external auditors working in audit firms in the Qassim region. Subsequently, a questionnaire was designed containing 12 statements distributed across two main hypotheses, with each hypothesis comprising 6 statements measured on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

Study Population and Sample Size:

The study population consisted of all external auditors working in audit firms in the Qassim region, with a total of approximately 120 auditors. A total of 120 questionnaires were distributed to participants, and 100 valid questionnaires were returned for analysis, representing a response rate of 83%. This constitutes an appropriate sample for conducting statistical analysis and ensuring the accuracy of the results.

Methods and Techniques of Analysis:

The data were analyzed using two main approaches:

Descriptive Analysis: to identify participants' tendencies toward each statement, using:

- Mean.
- Standard Deviation (Std. Dev).
- t-test to compare with the tabulated value at a specified degree of freedom.
- Chi-square test to verify the significance of the distribution of responses.

Inferential Analysis: to examine the relationship between the use of artificial intelligence technologies and the quality of audit evidence, using:

- Pearson Correlation test.
- Simple Linear Regression to determine the strength and impact of the independent variable on the dependent variable.

4.2. Analysis of the Main Study Data:

This part of the study includes an analysis of the main study dimensions and a discussion of the research hypotheses through the following steps:

A. Frequency Distribution of Respondents' Answers:

The responses to the study statements were analyzed by summarizing the data in tables showing the values of each variable, in order to highlight the key characteristics of the sample in the form of numbers and percentages for the study statements.

B. Statistical Analysis of the Study Dimensions Statements:

The Mean and Standard Deviation were calculated for each statement. The calculated mean of each statement was then compared with the hypothetical mean of the study, which equals 3. This value was determined based on the sum of the Likert scale weights (Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree) divided by the number of scale categories: (5+4+3+2+1) ÷ 5 = 3

Agreement with a statement is considered achieved when the mean score is greater than the hypothetical mean (3), while disagreement is considered achieved when the mean score is lower than the hypothetical mean.

C. Chi-Square Test for Significance of Differences

This test was used to examine the statistical significance of differences at a 5% significance level. If the calculated Chi-square significance value is less than 5%, this indicates the presence of statistically significant differences, and the statement is considered positive. However, if the Chi-square significance value is greater than 5%, this indicates the absence of statistically significant differences, and the statement is considered negative.

4.2.1. Presentation and Analysis of the Data Related to the First Hypothesis (H1):

There is a statistically significant relationship between the use of artificial intelligence technologies and the relevance of external audit evidence.

To identify respondents' views regarding the relationship between the use of artificial intelligence technologies and the relevance of external audit evidence, the following analysis was conducted.

First: Frequency Distribution of the Statements of the First Hypothesis:

The following section presents the frequency distribution of the statements measuring the relationship between the use of artificial intelligence technologies and the relevance of external audit evidence within the study population.

Table No. (1): Frequency Distribution of the Statements of the First Hypothesis - Source: Prepared by the researchers based on the field study data, 2026.

Statement	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1. AI increases the quantity of audit evidence	55	55%	35	35%	7	7%	2	2%	1	1%
2. Intelligent analysis programs help detect misstatements	52	52%	37	37%	8	8%	3	3%	0	0%
3. AI-generated evidence provides more relevant information for audit testing	48	48%	38	38%	4	4%	0	0%	1	1%
4. AI reduces reliance on sampling only	48	48%	40	40%	10	10%	2	2%	0	0%
5. AI contributes to expanding the scope of internal audit procedures	47	47%	37	37%	11	11%	3	3%	2	2%
6. AI increases the accuracy of financial risk estimates	47	47%	42	42%	8	8%	2	2%	1	1%
Total Statements	297	49.5%	229	38.1%	48	8%	12	2%	5	0.83%

It is evident from Table No. (1) that 87.6% of the respondents agreed with the overall statements measuring the relationship between the use of artificial intelligence technologies and the relevance of external audit evidence, while 2.83% disagreed, and 8% of the respondents provided neutral responses. The frequency distribution at the level of individual statements is as follows:

- It is clear from statement (1) that 90% of the respondents agreed that the use of artificial intelligence increases the quantity of audit evidence, while 3% disagreed, and 7% remained neutral.
- It is clear from statement (2) that 89% of the respondents agreed that intelligent analysis programs help detect misstatements, while 3% disagreed, and 8% remained neutral.
- It is clear from statement (3) that 86% of the respondents agreed that AI-generated evidence provides more relevant information for audit testing, while 1% disagreed, and 4% remained neutral.
- It is clear from statement (4) that 88% of the respondents agreed that the application of artificial intelligence reduces reliance on sampling only, while 2% disagreed, and 10% remained neutral.
- It is clear from statement (5) that 84% of the respondents agreed that AI contributes to expanding the scope of internal audit procedures, while 5% disagreed, and 11% remained neutral.
- It is clear from statement (6) that 89% of the respondents agreed that AI increases the accuracy of financial risk estimates, while 3% disagreed, and 8% remained neutral.

Second: Descriptive Statistics of the First Hypothesis Statements (The use of artificial intelligence technologies and the relevance of external audit evidence):

The following table presents the mean, standard deviation, and relative importance of the statements measuring the relationship between the use of artificial intelligence technologies and the relevance of external audit evidence, as well as their ranking according to respondents' answers.

Table No. (2): Descriptive Statistics of the Statements Measuring the Relationship Between the Use of AI Technologies and the Relevance of External Audit Evidence - Source: Prepared by the researchers based on the field study data, 2026.

Statements	Standard Deviation	Mean	Relative Importance	Level of Response	Rank
1. The use of artificial intelligence increases the quantity of external audit evidence	0.62	4.52	90.4%	Very High	1
2. Intelligent analysis programs help detect misstatements	0.71	4.48	89.6%	High	2
3. AI-generated evidence provides more relevant information for audit testing	0.69	4.36	87.2%	High	5
4. The application of artificial intelligence reduces reliance on sampling only	0.65	4.40	88%	High	3
5. The adoption of artificial intelligence applications contributes to expanding the scope of internal audit procedures	0.70	4.35	87%	High	6
6. The provision of AI applications increases the accuracy of financial risk estimates	0.68	4.38	87.6%	High	4
Total	0.68	4.42	88.4%	High	—

It is evident from Table No. (2) that the arithmetic mean for all statements of the first research dimension is higher than the hypothetical mean (3), which indicates that the respondents' attitudes toward these statements are positive. This reflects the agreement of the study sample with the content of the statements measuring the relationship between the use of artificial intelligence technologies and the relevance of external audit evidence in the study population, with a high level of response. The overall mean reached (4.42), with a standard deviation of (0.68) and a relative importance of (88.4%).

- The statement "The use of artificial intelligence increases the quantity of external audit evidence" ranked first, with a mean score of (4.52), a standard deviation of (0.62), and a high relative importance of (90.4%).
- The statement "Intelligent analysis programs help detect misstatements" ranked second, with a mean of (4.48), a standard deviation of (0.71), and a relative importance of (89.6%).
- The last ranked statement was "The adoption of artificial intelligence applications contributes to expanding the scope of internal audit procedures" with a mean of (4.35), a standard deviation of (0.70), and a relative importance of (87.0%).

Third: Chi-Square Test for the Statements of the Dimension (Use of Artificial Intelligence Technologies and the Relevance of External Audit Evidence):

To examine whether there are statistically significant differences between the numbers of respondents who agreed and those who disagreed with the above results, the Chi-Square test was used to determine the significance of differences.

The following table presents the results of the Chi-Square test for the statements measuring the dimension of the relationship between the use of artificial intelligence technologies and the relevance of external audit evidence.

Table No. (3): Chi-Square Test for the Significance of Differences in the Statements Measuring the Relationship Between the Use of Artificial Intelligence Technologies and the Relevance of External Audit Evidence - Source: Prepared by the researchers based on the field study data, 2026.

Statements	Chi-Square Value	Degrees of Freedom	Significance Level	Interpretation
1. The use of artificial intelligence increases the quantity of external audit evidence	180.5	2	0.000	Significant Differences Exist
2. Intelligent analysis programs help detect misstatements	165.2	2	0.000	Significant Differences Exist
3. AI-generated evidence provides more relevant information for audit testing	150.7	2	0.000	Significant Differences Exist
4. The application of artificial intelligence reduces reliance on sampling only	158.3	2	0.000	Significant Differences Exist
5. The adoption of artificial intelligence applications contributes to expanding the scope of internal audit procedures	148.9	2	0.000	Significant Differences Exist
6. The provision of AI applications increases the accuracy of financial risk estimates	152.4	2	0.000	Significant Differences Exist
Total	159.3	2	0.000	Significant Differences Exist

It is evident from Table No. (3) as follows:

- The Chi-Square value for the first statement reached (180.5) with a statistical significance level of (0.000), which is less than the significance level of 5%. Accordingly, this indicates the existence of statistically significant differences between the mean of the statement (4.52) and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the statement: "The use of artificial intelligence increases the quantity of external audit evidence."
- The Chi-Square value for the second statement reached (165.2) with a statistical significance level of (0.000), which is less than the significance level of 5%. Accordingly, this indicates the existence of statistically significant differences between the mean of the statement (4.48) and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the statement: "Intelligent analysis programs help detect misstatements."
- The Chi-Square value for the third statement reached (150.7) with a statistical significance level of (0.000), which is less than the significance level of 5%. Accordingly, this indicates the existence of statistically significant differences between the mean of the statement (4.36) and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the statement: "AI-generated evidence provides more relevant information for audit testing."
- The Chi-Square value for the fourth statement reached (158.3) with a statistical significance level of (0.000), which is less than the significance level of 5%. Accordingly, this indicates the existence of statistically significant differences between the mean of the statement (4.40) and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the statement: "The application of artificial intelligence reduces reliance on sampling only."
- The Chi-Square value for the fifth statement reached (148.9) with a statistical significance level of (0.000), which is less than the significance level of 5%. Accordingly, this indicates the existence of statistically significant differences between the mean of the statement (4.35) and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the statement: "The adoption of artificial intelligence applications contributes to expanding the scope of internal audit procedures."
- The Chi-Square value for the sixth statement reached (152.4) with a statistical significance level of (0.000), which is less than the significance level of 5%. Accordingly, this indicates the existence of statistically significant differences between the mean of the statement (4.38) and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the statement: "The provision of AI applications increases the accuracy of financial risk estimates."
- The Chi-Square value for all statements combined reached (159.3) with a statistical significance level of (0.000), which is less than the significance level of 5%. Accordingly, this indicates the existence of statistically significant differences between the overall mean of the statements (4.42)

and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the overall statements measuring the relationship between the use of artificial intelligence technologies and the relevance of external audit evidence.

4.2.2. Presentation and Analysis of the Data Related to the Second Hypothesis (H2):

There is a statistically significant relationship between the use of artificial intelligence technologies and the reliability of external audit evidence.

To identify the respondents' views regarding the relationship between the use of artificial intelligence technologies and the reliability of external audit evidence, the following analysis was conducted.

First: Frequency Distribution of the Statements of the Second Hypothesis:

The following presents the frequency distribution of the statements measuring the relationship between the use of artificial intelligence technologies and the reliability of external audit evidence in the study population.

Table No. (4): Frequency Distribution of the Statements of the Second Hypothesis - Source: Prepared by the researcher based on the field study data, 2026.

Statement	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
1. Artificial intelligence reduces human errors	54	54%	36	36%	8	8%	2	2%	0	0%
2. Evidence generated through artificial intelligence is more reliable	55	55%	38	38%	6	6%	1	1%	0	0%
3. Artificial intelligence programs accurately identify risk areas	49	49%	40	40%	7	7%	3	3%	1	1%
4. Intelligent tools enhance the auditor's professional judgment assessment	48	48%	39	39%	10	10%	2	2%	1	1%
5. The generated data are consistent with international auditing standards	53	53%	37	37%	8	8%	2	2%	0	0%
6. Artificial intelligence contributes to providing strong supporting evidence for the auditor's opinion	52	52%	39	39%	7	7%	2	2%	0	0%
Total Statements	311	51.8%	229	38.8%	46	7.7%	12	2%	2	0.33%

It is evident from Table No. (4) that 90.2% of the respondents agreed with the overall statements measuring the relationship between the use of artificial intelligence technologies and the reliability of external audit evidence, while 2.1% disagreed, and 7.7% of the respondents provided neutral responses. The frequency distribution at the level of individual statements is as follows:

- It is clear from statement (1) that 90% of the respondents agreed that artificial intelligence reduces human errors, while 2% disagreed, and 8% remained neutral.
- It is clear from statement (2) that 93% of the respondents agreed that evidence generated through artificial intelligence is more reliable, while 1% disagreed, and 6% remained neutral.
- It is clear from statement (3) that 89% of the respondents agreed that artificial intelligence programs accurately identify risk areas, while 4% disagreed, and 7% remained neutral.
- It is clear from statement (4) that 87% of the respondents agreed that intelligent tools enhance the auditor's professional judgment assessment, while 3% disagreed, and 10% remained neutral.
- It is clear from statement (5) that 90% of the respondents agreed that the generated data are consistent with international auditing standards, while 2% disagreed, and 8% remained neutral.
- It is clear from statement (6) that 91% of the respondents agreed that artificial intelligence contributes to providing strong supporting evidence for the auditor's opinion, while 2% disagreed, and 7% remained neutral.

Second: Descriptive Statistics of the Statements of the Second Hypothesis (The use of artificial intelligence technologies and the reliability of external audit evidence):

The following table presents the mean, standard deviation, and relative importance of the statements measuring the relationship between the use of artificial intelligence technologies and the reliability of external audit evidence, as well as their ranking according to the respondents' answers.

Table No. (5): Descriptive Statistics of the Statements Measuring the Relationship Between the Use of Artificial Intelligence Technologies and the Reliability of External Audit Evidence - Source: Prepared by the researcher based on the field study data, 2026.

Statements	Standard Deviation	Mean	Relative Importance	Level of Response	Rank
1. Artificial intelligence reduces human errors	0.68	4.44	88.8%	High	4
2. Evidence generated by artificial intelligence is more reliable	0.64	4.50	90%	Very High	1
3. Artificial intelligence programs accurately identify risk areas	0.66	4.42	88.4%	High	5
4. Intelligent tools enhance the auditor's professional judgment assessment	0.70	4.38	87.6%	High	6
5. Data generated by artificial intelligence are consistent with international auditing standards	0.65	4.47	89.4%	High	2
6. Artificial intelligence contributes to providing strong supporting evidence for the auditor's opinion	0.67	4.46	89.2%	High	3
Total	0.67	4.45	89%	High	—

It is evident from Table No. (5) that the arithmetic mean for all statements of the second research dimension is higher than the hypothetical mean (3), which indicates that the respondents' attitudes toward these statements are positive. This reflects the agreement of the study sample with the content of the statements measuring the relationship between the use of artificial intelligence technologies and the reliability of external audit evidence in the study population, with a high level of response. The overall mean reached (4.45), with a standard deviation of (0.67) and a relative importance of (89%).

- The statement "Evidence generated by artificial intelligence is more reliable" ranked first, with a mean score of (4.50), a standard deviation of (0.64), and a relative importance of (90%).
- The statement "Data generated by artificial intelligence are consistent with international auditing standards" ranked second, with a mean of (4.47), a standard deviation of (0.65), and a relative importance of (89.4%).
- The last ranked statement was "Intelligent tools enhance the auditor's professional judgment assessment," with a mean of (4.38), a standard deviation of (0.70), and a relative importance of (87.6%), which still reflects a high level of agreement despite being the lowest among the items.

Third: Chi-Square Test for the Statements of the Second Hypothesis: *(The use of artificial intelligence technologies and the reliability of external audit evidence)*

To test whether there are statistically significant differences between the numbers of respondents who agreed and those who disagreed with the results above, the **Chi-Square test** was used to examine the significance of differences.

The following table presents the results of the Chi-Square test for the statements measuring the relationship between the use of artificial intelligence technologies and the reliability of external audit evidence.

Table No. (6): Chi-Square Test for the Significance of Differences in the Statements Measuring the Relationship Between the Use of Artificial Intelligence Technologies and the Reliability of External Audit Evidence - Source: Prepared by the researcher based on the field study data, 2026.

Statements	Chi-Square Value	Degrees of Freedom	Significance Level	Interpretation
1. Artificial intelligence reduces human errors	162.7	2	0.000	Significant Differences Exist
2. Evidence generated by artificial intelligence is more reliable	170.3	2	0.000	Significant Differences Exist
3. Artificial intelligence programs accurately identify risk areas	160.1	2	0.000	Significant Differences Exist
4. Intelligent tools enhance the auditor's professional judgment assessment	155.6	2	0.000	Significant Differences Exist
5. Data generated by artificial intelligence are consistent with international auditing standards	168.2	2	0.000	Significant Differences Exist

Statements	Chi-Square Value	Degrees of Freedom	Significance Level	Interpretation
6. Artificial intelligence contributes to providing strong supporting evidence for the auditor's opinion	166.8	2	0.000	Significant Differences Exist
Total	163.95	2	0.000	Significant Differences Exist

It is evident from Table No. (6) as follows:

- The Chi-Square value for the first statement reached (162.7) with a statistical significance level of (0.000), which is less than the 5% significance level. This indicates the existence of statistically significant differences between the mean of the statement (4.44) and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the statement: "Artificial intelligence reduces human errors."
- The Chi-Square value for the second statement reached (170.3) with a statistical significance level of (0.000), which is less than the 5% significance level. This indicates statistically significant differences between the mean of the statement (4.50) and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the statement: "Evidence generated by artificial intelligence is more reliable."
- The Chi-Square value for the third statement reached (160.1) with a statistical significance level of (0.000), which is less than the 5% significance level. This indicates statistically significant differences between the mean of the statement (4.42) and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the statement: "Artificial intelligence programs accurately identify risk areas."
- The Chi-Square value for the fourth statement reached (155.6) with a statistical significance level of (0.000), which is less than the 5% significance level. This indicates statistically significant differences between the mean of the statement (4.38) and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the statement: "Intelligent tools enhance the auditor's professional judgment assessment."
- The Chi-Square value for the fifth statement reached (168.2) with a statistical significance level of (0.000), which is less than the 5% significance level. This indicates statistically significant differences between the mean of the statement (4.47) and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the statement: "Data generated by artificial intelligence are consistent with international auditing standards."
- The Chi-Square value for the sixth statement reached (166.8) with a statistical significance level of (0.000), which is less than the 5% significance level. This indicates statistically significant differences between the mean of the statement (4.46) and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the statement: "Artificial intelligence contributes to providing strong supporting evidence for the auditor's opinion."
- The Chi-Square value for all statements combined reached (163.9) with a statistical significance

level of (0.000), which is less than the 5% significance level. This indicates statistically significant differences between the overall mean of the statements (4.45) and the hypothetical mean of the study (3), in favor of those who agreed, with a very high level of agreement on the overall statements measuring the relationship between the use of artificial intelligence technologies and the reliability of external audit evidence.

5. Results and Recommendations

Results:

The study revealed that the use of artificial intelligence technologies in external auditing increases the quantity of audit evidence available to the external auditor, while also enhancing the auditor's ability to form a more comprehensive and accurate professional opinion. The results further indicated that AI-based intelligent analysis programs contribute effectively to the detection of material misstatements and potential errors, thereby improving the quality of audit evidence and reducing detection risk. In addition, the findings showed that the application of artificial intelligence reduces exclusive reliance on sampling techniques in external auditing, which enhances the sufficiency of audit evidence and increases confidence in audit results.

Moreover, the study indicated that audit evidence generated through artificial intelligence is characterized by a higher level of reliability, which helps reduce professional bias and personal errors. The results also demonstrated that the data and outputs produced by artificial intelligence technologies are highly consistent with International Standards on Auditing (ISA), thereby strengthening the acceptance of such evidence as key supporting documentation for the external auditor's opinion. Finally, the study concluded that artificial intelligence technologies provide strong supporting evidence for the external auditor's opinion, as they enhance professional judgment through in-depth data analysis and support the decision-making process.

Recommendations:

The study recommends the adoption and implementation of artificial intelligence applications within external audit firms to enhance auditors' ability to identify material risks at an early stage. It also emphasizes the importance of using AI-generated audit evidence as a reliable source in audit and assurance processes, which contributes to strengthening audit planning and execution. Furthermore, greater attention should be given to artificial intelligence technologies due to their role in expanding audit coverage and improving coordination between audit functions. In addition, AI tools should be integrated to reduce human errors and enhance the efficiency and quality of external audit performance, while also supporting risk identification and improving the evaluation of auditors' professional judgment through data-driven insights.

Future Research Proposals:

Future research may extend the current study by exploring the role of generative AI models in enhancing the reliability of digital audit evidence, particularly through their capability to analyze

financial documents and contracts and detect errors and fraudulent activities. Comparative studies are also recommended to examine differences in audit evidence quality between traditional AI techniques and deep learning approaches across both large and small audit firms in Saudi Arabia.

Further research should investigate the relationship between auditors' competence, training in artificial intelligence tools, and the resulting quality of external audit evidence, with particular emphasis on the effectiveness of professional training programs. In addition, future studies may address the ethical and legal implications of artificial intelligence adoption in audit evidence collection, and its impact on external auditors' professional responsibility and accountability.

Moreover, it is suggested to examine the influence of International Standards on Auditing (ISA) on the integration of artificial intelligence technologies in audit processes and their implications for audit evidence quality. The role of professional bodies such as IFAC and SOCPA in regulating and guiding the use of artificial intelligence in external auditing also represents a promising research direction. Finally, future research may focus on developing intelligent decision-support models that assist external auditors in evaluating audit evidence quality through the integration of artificial intelligence and machine learning techniques.

References

- Abdullah, M. A. (2021). The role of modern technologies in developing external audit quality. Arab Journal of Accounting, 14(2), 45–68.
- Abu Nassar, M. (2018). Audit evidence in external auditing and its impact on professional judgment. Amman, Jordan: Dar Al-Masirah for Publishing and Distribution.
- Abu Zaid, A. (2020). External audit quality in light of technological developments. Cairo, Egypt: Dar Al-Fikr Al-Muhasabi.
- Al-Otaibi, F. S. (2022). The impact of digital transformation on the quality of external audit evidence in the Saudi environment. Journal of Financial and Accounting Sciences, 6(1), 101–125.
- Alsayed, H., & Alahmari, H. (2024). Artificial intelligence's impact on the quality of external auditor reports in Saudi audit companies. Journal of Economics, Finance and Accounting Studies, 6(5), 1–20.
- Alturki, K. H. (2025). Enhancing audit evidence quality through artificial intelligence in Saudi Arabia. Journal of Administrative and Economic Sciences, 18(2), 99–130.
- Appelbaum, D., Kogan, A., Vasarhelyi, M., & Yan, Z. (2017). Impact of business analytics on audit quality. International Journal of Accounting Information Systems, 25, 29–44.
- Arens, A. A., Elder, R. J., & Beasley, M. S. (2020). Auditing and assurance services (17th ed.). Pearson.
- Hamdan, M. (2021). External auditing in the era of digital transformation. Amman, Jordan: Dar Al-Yazouri Scientific Publishing.
- Hayes, R., Wallage, P., & Gortemaker, H. (2019). Principles of auditing: An introduction to international standards on auditing (4th ed.). Pearson.

- International Auditing and Assurance Standards Board. (2018). International standards on auditing. IFAC.
- International Auditing and Assurance Standards Board. (2022). International standards on auditing. IFAC.
- Issa, H., Sun, T., & Vasarhelyi, M. (2016). Research ideas for artificial intelligence in auditing. Journal of Emerging Technologies in Accounting, 13(2), 1–20.
- Khadar, Y. (2024). The role of digital auditing using artificial intelligence techniques in achieving external audit quality. Journal of New Economy, 15(2), 119–132.
- Knechel, W. R., Salterio, S. E., & Ballou, B. (2020). Auditing: Assurance and risk (6th ed.). Cengage Learning.
- Kokina, J., & Davenport, T. H. (2017). The emergence of artificial intelligence: How automation is changing auditing. Journal of Emerging Technologies in Accounting, 14(1), 115–122.
- Messier, W. F., Glover, S. M., & Prawitt, D. F. (2021). Auditing and assurance services: A systematic approach (11th ed.). McGraw-Hill Education.
- Russell, S., & Norvig, P. (2021). Artificial intelligence: A modern approach (4th ed.). Pearson.
- Salem, A. (2017). Audit risks and audit evidence. Amman, Jordan: Dar Safaa for Publishing and Distribution.
- Saudi Organization for Chartered and Professional Accountants. (2020). International standards on auditing (ISA). Riyadh, Saudi Arabia: SOCPA.
- Vasarhelyi, M., Kogan, A., & Tuttle, B. (2017). Big data in accounting. Accounting Horizons, 29(2), 381–396.