Al-Qadisiyah Journal for Administrative and Economic Sciences ISSN$_{Online}$: 2312-9883
QJAE, Special Issue (2024) ISSN$_{Print}$: 1816-9171

The Impact of Artificial Intelligence Techniques on External Audit Quality and Its Reflection on the Expectation Gap: An Exploratory Study from the Perspective of Auditors in Iraqi Audit Firms.

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Abstract: The transformation of the economic and scientific environment, along with the evolution of information and communication technology and its penetration into various fields, including auditing and accounting, has led to new responsibilities for auditors. They have found themselves facing the necessity of dealing with and adapting to these developments, which have directly affected various auditing procedures. These procedures have become inadequate in meeting their objectives given the volume of transactions carried out by economic entities and the shift from paper-based to digitally technological environments associated with accounting information systems.

Therefore, the main aim of this research is to determine the impact of artificial intelligence techniques on improving the quality of external auditing services and how this reflects on the expectation gap in the Iraqi environment from the perspective of auditors. To achieve this, the researchers designed a questionnaire as a tool for collecting primary data. The researchers used an inductive and deductive approach, and to process the data and test the hypotheses, they used the statistical software SPSS. The necessary statistical analyses were also employed for this purpose.

The research presented a number of conclusions, the most important of which include: the presence of a positive impact of artificial intelligence techniques on improving the quality of external auditing and reducing the expectation gap. This is because the use of artificial intelligence in the auditing process leads to completing the audit process in the shortest possible time, with less effort, and at a lower cost. The research also recommended the necessity of introducing artificial intelligence techniques in the execution of auditing work, along with the necessity of proposing a local or international auditing standard that aligns with these modern techniques. This would ensure the objectivity and quality of auditing and positively impact the reduction of the expectation gap.

Keywords: Artificial Intelligence Techniques, Audit Quality, Expectation Gap.

Introduction: The world has witnessed significant and rapid developments in the field of information and communication technology, especially after the COVID-19 health crisis, which has affected various economic, political, and social aspects. This has led to an expansion in the use of computers, internet networks, and information technology applications. Information technology has become an essential necessity required by all institutions to efficiently and effectively accomplish various tasks, aiming to control a large amount of data and information in an organized, rapid, and accurate manner. The financial shocks that occurred globally have also sparked a significant debate about the auditing profession. There has been much talk about it, with financial statement users considering it disappointing due to the inability of auditors to predict the failure of the companies they were auditing. This has created a gap between what is expected from the auditor and what tasks can be defined through their contributions and role in society for the company, as well as the auditors' responsibilities towards financial statement users. The auditing process is considered an organized and purposeful process that seeks to provide a reasonable assurance about the fairness of the financial statements and the credibility of financial disclosure. Therefore, it serves many parties related to financial statements, governed by multiple and diverse motives and interests. Hence, it is essential for the auditing profession to instill confidence in financial statements to improve the quality of auditing. External auditing has witnessed increasing responses to keep up with developments in information technology used by

various economic institutions. This is on one hand, while on the other hand, there is a necessity for experienced and competent personnel relying on modern technology methods.

Therefore, there is a necessity to work on enhancing the auditing profession and empowering auditors to reach the required level of quality. Like other countries, Iraq has attempted to integrate information technology into the external auditing process by urging external auditors to use modern means to support financial disclosure and reporting. Electronic auditing using artificial intelligence techniques helps improve the efficiency and effectiveness of auditing tasks, accomplishing them in less time and at lower costs, thus reducing the expectation gap. This contributes to increasing the market share of auditing firms.

First: Research Methodology 1- Research Problem: Technological advancements have imposed many new requirements on auditors and regulatory bodies issuing auditing standards to enhance their capabilities and capacities to keep pace with technological advancements in the business environment. Traditional auditing standards, tools, and techniques are no longer sufficient to meet the needs of various stakeholders amid these significant technological developments. This represents a gap between the contemporary business environment's needs and the skills and experiences possessed by auditors. Moreover, current auditing standards are inadequate to ensure the operation of systems based on artificial intelligence technologies, which may weaken the quality of auditing. The research problem lies in the following questions:

- Is there an impact of artificial intelligence techniques on improving the quality of external auditing?

Is there an impact of artificial intelligence techniques, through digital auditing, in reducing the expectation gap? 2- Significance of the Research: a- Scarcity of Iraqi studies addressing the impact of artificial intelligence techniques on improving audit quality and reducing the expectation gap in the Iraqi environment. b- Increasing reliance of companies worldwide on artificial intelligence techniques in decision-making processes and strategy building highlights the importance of this research, as it addresses one of the latest topics that link several vital subjects: artificial intelligence techniques and their impact on achieving auditing quality and reducing the expectation gap in the Iraqi auditing environment. c- Establishing scientific frameworks and regulations regarding improving audit quality using artificial intelligence techniques in auditing firms to keep up with digitization trends, maximizing auditing firms' benefit from artificial intelligence techniques and their positive impacts on improving auditing quality, thus rationalizing the decisions of users of audit reports and consequently reducing the expectation gap. 3- Research Objectives: The main objective of this research is to understand the impact of artificial intelligence techniques on improving the quality of auditing services and its reflection on the expectation gap in the Iraqi environment from the perspective of external auditors, through the following sub-objectives: a- Identifying artificial intelligence techniques and determining their uses in accounting and auditing, as well as defining audit quality and its trends and dimensions, in addition to addressing the expectation gap and the reasons leading to its existence in the auditing environment. b- Determining the expected impact of artificial intelligence techniques on improving audit quality, as well as explaining the effect of external audit quality using digital auditing in reducing the expectation gap in the Iraqi environment. c- Drawing attention to future challenges facing the profession and what auditors should do to address these challenges. d- Indicating the extent of external auditors' awareness of the importance of using artificial intelligence techniques to improve the quality of external auditing services. 4- Research Hypotheses: First Hypothesis: There is a significant and statistically meaningful impact of artificial intelligence techniques on improving the quality of external auditing. Second Hypothesis: There is a significant and statistically meaningful impact of artificial intelligence techniques, through digital auditing, in reducing the expectation gap. 5- Research Methodology and Methods: The research adopted the deductive approach in formulating the research problem and hypotheses and the inductive approach in testing the research hypotheses, in addition to the descriptive deductive methodology in the applied research aspect. Therefore, there is a necessity to work on enhancing the auditing profession and empowering auditors to reach the required level of quality. Like other countries, Iraq has attempted to integrate information technology into the external auditing process by urging external auditors to use modern means to support financial disclosure and reporting. Electronic auditing using artificial intelligence techniques helps improve the efficiency and effectiveness of auditing tasks, accomplishing them in less time and at lower costs, thus reducing the expectation gap. This contributes to increasing the market share of auditing firms.

First: Research Methodology

1- **Research Problem**:

Technological advancements have imposed many new requirements on auditors and regulatory bodies issuing auditing standards to enhance their capabilities and capacities to keep pace with technological advancements in the business environment. Traditional auditing standards, tools, and techniques are no longer sufficient to meet the

needs of various stakeholders amid these significant technological developments. This represents a gap between the contemporary business environment's needs and the skills and experiences possessed by auditors. Moreover, current auditing standards are inadequate to ensure the operation of systems based on artificial intelligence technologies, which may weaken the quality of auditing. The research problem lies in the following questions:

Is there an impact of artificial intelligence techniques on improving the quality of external auditing?

Is there an impact of artificial intelligence techniques, through digital auditing, in reducing the expectation gap?

2- **Significance of the Research:**

a- Scarcity of Iraqi studies addressing the impact of artificial intelligence techniques on improving audit quality and reducing the expectation gap in the Iraqi environment.

b- Increasing reliance of companies worldwide on artificial intelligence techniques in decision-making processes and strategy building highlights the importance of this research, as it addresses one of the latest topics that link several vital subjects: artificial intelligence techniques and their impact on achieving auditing quality and reducing the expectation gap in the Iraqi auditing environment.

c- Establishing scientific frameworks and regulations regarding improving audit quality using artificial intelligence techniques in auditing firms to keep up with digitization trends, maximizing auditing firms' benefit from artificial intelligence techniques and their positive impacts on improving auditing quality, thus rationalizing the decisions of users of audit reports and consequently reducing the expectation gap.

3- **Research Objectives:**

The main objective of this research is to understand the impact of artificial intelligence techniques on improving the quality of auditing services and its reflection on the expectation gap in the Iraqi environment from the perspective of external auditors, through the following sub-objectives:

a- Identifying artificial intelligence techniques and determining their uses in accounting and auditing, as well as defining audit quality and its trends and dimensions, in addition to addressing the expectation gap and the reasons leading to its existence in the auditing environment.

b- Determining the expected impact of artificial intelligence techniques on improving audit quality, as well as explaining the effect of external audit quality using digital auditing in reducing the expectation gap in the Iraqi environment.

c- Drawing attention to future challenges facing the profession and what auditors should do to address these challenges.

d- Indicating the extent of external auditors' awareness of the importance of using artificial intelligence techniques to improve the quality of external auditing services.

4- **Research Hypotheses:**

First Hypothesis: There is a significant and statistically meaningful impact of artificial intelligence techniques on improving the quality of external auditing.

Second Hypothesis: There is a significant and statistically meaningful impact of artificial intelligence techniques, through digital auditing, in reducing the expectation gap.

5- **Research Methodology and Methods:**

The research adopted the deductive approach in formulating the research problem and hypotheses and the inductive approach in testing the research hypotheses, in addition to the descriptive deductive methodology in the applied research aspect.

6- Data Collection Sources:

a- Secondary Sources: These include books, scientific research papers, theses, publications from international accounting and professional standards bodies, and relevant local laws related to the research topic.

b- b- Primary Sources: Through a questionnaire survey designed to collect data from a sample of the research community aimed at covering the practical aspect. Researchers conducted statistical analysis of this data using various statistical methods available in the Statistical Package for the Social Sciences (SPSS).

7- Research Limitations Spatial Boundaries:

Represented by auditing offices and firms operating in Iraq. Temporal Boundaries: The time period for the research sample, which is the year 2023. Human Boundaries: Accountants and auditors working in Iraqi auditing offices and firms.

Secondly: The Theoretical Aspect of the Research

1. Definition of Artificial Intelligence: Artificial intelligence is defined as a set of programs that add to the computer's ability to simulate human intelligence and capabilities, enabling it to perform human tasks that require understanding, thinking, interpretation, and movement, as well as performing various life skills. Additionally, artificial intelligence can be defined as the ability of machines to perceive, understand, interpret, and solve problems, diagnose diseases, and control vehicle movements on roads, among other tasks. In this context, artificial intelligence is characterized by the ability to execute tasks associated with living organisms. From a auditing perspective, artificial intelligence can be defined as a branch of computer science that focuses on studying and developing computer systems that exhibit some form of intelligence, meaning systems that learn new concepts and tasks, think, derive useful conclusions, help auditors achieve completeness, and improve the quality of auditing procedures.

2. Objectives and Functions of Artificial Intelligence: a- Understanding the essence of human intelligence and designing intelligent systems with the same human-like behavior and intelligence, enabling them to mimic human intelligence in various operations, decisions, problem-solving, and performing diverse life skills. b- Increasing machines' ability to process data synchronously and better visualize human intelligence through the brain to understand and mimic it. The human nervous system and brain are among the most complex organs, working together to understand and interpret things. c- Implementing knowledge storage, interpretation, and retention processes in methodological databases and using them to access results, benefitting from cumulative human knowledge, employing it to solve problems, investing in and protecting scientific knowledge and experience from damage, loss, or forgetfulness, and increasing the ability to form new experiences and benefit from computerized knowledge in decision-making processes.

Based on the above, researchers conclude that the primary goal of artificial intelligence is to assist humans in leveraging past experiences and experiments, employing vast scientific knowledge in various fields to make decisions and deal with various problems, mimicking human-like behavior, and including two significant types: the first type aims to comprehend human thoughts and emotions that can influence human behavior, characterized by the ability to communicate and interact with others, while the second type is a model that is better suited to reach high-level decisions in solving various problems faced by humans in their multiple life domains.

3. External Audit Quality: Audit quality is one of the important and evolving topics, gaining importance when auditors express a professional opinion that is contrary to the reality of financial statements, leading to serious and misleading results for decision-makers. In this regard, three trends can be distinguished regarding audit quality:

- The first trend focuses on the financial aspect or the trend adopted by professional organizations related to auditing, where audit quality depends on the extent of auditors' compliance with the professional standards issued by these organizations.
- The second trend focuses on the team, where the audit process is executed by a team of professionals generally consisting of the partner responsible for the process, followed by the manager responsible for planning, and the senior auditor supervising assistants in executing the work and collecting evidence. The quality of the audit process is reflected in the extent of compliance with the plans and programs set forth.

Third aspect: Focuses on the results of the auditing process, where the quality of auditing is represented by the auditor's ability to discover errors and gaps in the client's accounting system, and to minimize the risk of errors in financial data to the lowest possible level in light of the agreed-upon fees. Therefore, the higher the probability of discovering substantial errors, the higher the quality of auditing, and vice versa. Others see that the quality of auditing is related to the following points:

a. The extent of the auditor's ability to detect errors and irregularities.

b. The level of confidence provided by the auditor to the users of financial statements through the accuracy of the information provided and the absence of any material distortions and errors in the financial statements.

c. Reducing the risk of detection to the level at which the audit risk is acceptable, from low to the highest possible degree.

d. The extent of the external auditor's compliance with professional standards.

e. Ensuring that the external auditing service includes all the qualities and characteristics expected by all stakeholders in the auditing environment.

There have been many definitions for the quality of external auditing. It has been defined as "the methods used to ensure that the auditor performs his professional responsibilities" (Arinz & Lubuk, 2005, 44). It has also been defined as "the probability that the auditor will discover breaches in the client's accounting system, report them, and provide a report" (Ahmed, 2011, 16). Willingham & Jacobson proposed that the best way to define the quality of auditing is by linking it to the risk of the auditing process, so it is when the legal accountant reduces the risk of detection to the level at which the audit risk is acceptable, from low to the highest possible degree (Abu Haneen, 2005, 47). From the previous definitions, it is noted that quality depends on two fundamental conditions:

a. Discovering errors and gaps in the client's accounting system, meaning that the more fraud and material distortions are detected, the higher the quality of auditing, and vice versa.

b. Reaching a final professional opinion on the auditing process.

4. Uses of Artificial Intelligence in Accounting and Auditing:

Artificial intelligence is considered a huge revolution in the field of technology and information technology. Artificial intelligence is one of the subfields of computer science, which involves creating devices and software that possess intelligence and work and interact like humans. Regarding financial data, artificial intelligence has brought about significant changes in all accounting functions, accompanied by significant developments in quality and efficiency, while protecting data from fraud and errors and ensuring the safety of accounting information. Moreover, artificial intelligence is capable of building decision support systems and retaining a large amount of financial data for later use in similar cases. It is also used in industrial cases to organize production, monitor quality, design new products, and predict the behavior of economic variables affecting the economic environment of the institution.

Researchers believe that the use of artificial intelligence in accounting in general, and auditing in particular, is of great importance. The use of artificial intelligence applications can help auditors accomplish their assigned tasks and perform their roles with the highest possible efficiency by utilizing the enormous potentials and advantages provided by various artificial intelligence applications. Employing such applications can increase the accuracy of auditing results, thus improving the quality of economic and commercial decisions made based on audit results.

5. Definition of Expectation Gap and its Components:

The complex nature of the expectation gap phenomenon in the auditing environment is reflected in the lack of a unified definition in accounting literature. It has been defined in different ways, reflecting the perspectives of the parties adopting those definitions regarding the nature of this gap and the reasons for the disagreement between auditors and the audience benefiting from auditing services. From these definitions, we find:

Liggio provided the first definition of the expectation gap in 1974, defining it as "the variance between what is expected to be achieved by auditors and their actual performance."

Sikka defined it as "the variance in understanding between society's expectations regarding audit objectives and the objectives that audit tasks seek to achieve." Porter defined it as "the difference between what auditors do or can do, and what is expected or anticipated of them based on society's expectations of them."

From these definitions, the expectation gap can be defined as "the difference in beliefs between the auditor and stakeholders regarding the identification of the auditor's responsibilities and duties and their opinions through the reports they prepare; that is, the difference between what stakeholders expect from the auditing profession and what it actually delivers."

The expectation gap can be analyzed and elucidated according to three levels as follows:

- The first level: Variance between financial statement users and the auditor regarding the responsibilities that auditing should fulfill.

- The second level: Variance between financial statement users and the auditor regarding the current responsibilities of the auditor.

- The third level: Variance between financial statement users and the auditor regarding the efficiency of auditing execution.

According to these levels, the expectation gap in auditing consists of:

a. Reasonableness Gap: The variance between society's or financial statement users' expectations from auditors and what auditors can reasonably perform.

b. Performance Gap: The variance between what society or financial statement users reasonably expect auditors to do and their actual performance. This gap can be divided into two parts:

- Standards Gap: The variance between what auditors reasonably expect to do and what the auditing profession and its standards require them to do.

- Performance Gap: The variance between auditors' duties according to auditing standards and their actual performance, which is sometimes referred to as inadequacy or deficiency in performance.

6. Causes Leading to the Existence of the Expectation Gap in the Auditing Environment:

Identifying the reasons behind any problem will positively contribute to finding appropriate solutions. The reasons and factors for the occurrence of the expectation gap in auditing can be divided as follows:

First: Reasons related to the auditor's performance include: (Al Qudat, 2013: 33)

a. Doubt in the independence and neutrality of the external auditor.

b. Lack of professional competence of the auditor.

c. Decrease in performance quality.

Second: Reasons related to the auditing environment include: (Abdullah, 2017: 46)

a. Lack of clear definition of the roles and responsibilities of the auditor.

b. Ineffective communication in the auditing environment.

c. Deficiencies in the self-regulation system of the auditing profession.

d. Shortcomings in published financial reports.

e. Insufficient legislation and professional standards regulating the auditing profession.

Third: Reasons related to users of financial statements include: (Al Sabouh, 2015: 36)

a. Overestimation of the auditing responsibility for detecting fraud, errors, and illegal acts.

b. Financial statement users' perception that a positive audit report guarantees the company's ability to continue.

c. Lack of accounting and auditing culture among users.

d. The nature of changes in societal expectations.

7. Reducing the Expectation Gap by Relying on the Quality of External Auditing:

Improving the quality of external auditing in order to narrow the expectation gap can be achieved through the following:

First: Reinforcing the independence of the auditor:

a. Increasing awareness among shareholders to activate the general meetings of joint-stock companies to strengthen the independence of the auditor. Despite laws in most countries stipulating the appointment and isolation of the auditor by the general assembly of the company, shareholders often fail to fulfill their role in this regard, leading to the management's sole exercise of this role, which can compromise the auditor's independence.

b. Activating the role of audit committees in reinforcing the independence of the external auditor, where they are required to nominate the external auditor, determine their fees, and discuss audit reports.

c. Setting a term limit for the external auditor by appointing them for a three-year term, renewable once, and not reappointing the same external auditor after two consecutive terms until three years have passed.

Second: Reinforcing the role of professional organizations and their dominance over the accounting and auditing profession:

It is the duty of professional organizations to redevelop and organize the accounting and auditing profession to enable self-regulation and increase the quality of professional performance in auditing. This leads to increased professional responsibility of auditors and enhances public confidence in their work, provided that the public is well informed about this role for the benefit of those who utilize auditing services. Implementing quality control programs and a strict accountability system by the professional organization will lead to raising the level of performance quality to the expected standards and thus satisfying the beneficiaries of the auditors' services.

Thirdly: The Practical Aspect of the Research

First Axis: Applied Research Procedures:

1- Research Community and Sample:

- The research community consists of 350 external auditors in auditing firms and companies.

- A sample of 60 specialized individuals was selected to be part of the study.

2- Distribution and Receipt of Surveys to the Research Community:

- Surveys were used as a tool for data collection.

- 60 survey forms were distributed to the targeted sample of employees in auditing firms in Iraq.

- The percentage of distributed and received surveys analyzed for response rate was 100%.

3- **Repetitive Distribution and Descriptive Statistics for Field Research Axes:**

- Descriptive statistical methods were used to obtain general information about the characteristics and distribution of the research sample.

- Repetitive distribution was applied to the research axes to measure the response rate to the statements.

- A Likert five-point scale was used to evaluate the sample responses.

- The hypothetical mean for the research was determined based on a five-point scale, where an increase above the hypothetical mean (3) indicates agreement with the statement, and a decrease indicates disagreement.

Table (1): Agreement Scale

Degree of Agreement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Score	5	4	3	2	1

Axis Two: Results Analysis and Hypothesis Testing

First: Results related to respondents' opinions about the questionnaire axes

1. **Results of respondents' opinions regarding the first axis statements: Artificial Intelligence Applications**

Table (2) illustrates the frequency distribution and descriptive statistics of the responses of the research sample individuals towards the statements of the first axis:

Standard Deviation	Mean	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	Statement
1.167	3.87	22	18	14	2	4	n	Continuous training of auditors in audit firms to keep up with technological developments in the audit field.
1.358	3.53	20	12	14	8	6	n	Use of modern and advanced technology software in the auditing process.

Standard Deviation	Mean	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	Statement
1.331	3.57	20	14	10	12	4	n	Utilization of advanced artificial intelligence techniques to support the auditing process.
0.980	4.27	15	22	4	2	2	n	The use of expert systems in artificial intelligence technologies makes the profession of external auditing more effective and accurate by providing reliable and comprehensive qualitative data.
0.898	3.57	6	30	18	4	2	n	The auditor's knowledge of artificial intelligence techniques and their coordination between different stages of the audit process and its integration through it.
1.104	4.40	10	28	12	6	4	n	Relying on the use of modern technological devices, and smart programs to develop the auditing process.

Source: Compiled by researchers based on the outputs of the statistical program (SPSS).

Table (1) indicates that the majority of the sample individuals' responses ranged between agreement and strong agreement for most of the first axis statements, with a mean ranging from (4.40) for the sixth statement, to (3.53) for the second statement.

Results of respondents' opinions regarding the second axis statements: External Audit Quality

Table (3) illustrates the frequency distribution and descriptive statistics of the responses of the research sample individuals towards the statements of the second axis:

Standard Deviation	Mean	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	Statement
1.258	3.27	14	10	18	14	4	n	Scientific and practical qualification of auditors using artificial intelligence techniques based on digital auditing contributes to achieving the quality of auditing services.
1.070	3.60	12	24	14	8	2	n	The use of modern technological devices, equipment, and software in auditing operations leads to the development of external audit procedures.
1.203	4.00	25	23	6	0	6	n	The use of advanced devices and communication networks in auditing contributes to achieving the quality of auditing services.
1.278	3.57	18	16	12	10	4	n	Artificial intelligence techniques contribute to increasing coordination between different stages of the audit process and integrating them, leading to a reduction in time, effort, and cost.
1.478	3.57	22	14	10	4	10	n	Artificial intelligence techniques using digital auditing provide auditing services that are independent and objective.
1.081	3.27	10	12	24	12	2	n	The use of artificial intelligence techniques in digital auditing improves the auditor's ability to select appropriate, sufficient, and high-quality evidence.

Source: Compiled by researchers based on the outputs of the statistical program (SPSS).

Table (2) indicates that the majority of the sample individuals' responses ranged between agreement and neutrality for most of the second axis statements, with a mean ranging from (4.00) for the third statement to (3.27) for the first and sixth statements.

Results of respondents' opinions regarding the third axis statements: Expectation Gap

Table (4) illustrates the frequency distribution and descriptive statistics of the responses of the research sample individuals towards the statements of the third axis:

Standard Deviation	Mean	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	Statement
1.357	3.43	18	12	14	10	6	n	Artificial intelligence techniques using digital auditing enhance auditors' responsibilities in expressing professional opinions, resulting in issuing unbiased and professional judgments, reflecting on narrowing the expectation gap.
1.461	3.27	18	8	16	8	10	n	Artificial intelligence techniques using digital auditing lead to the issuance of audit reports in a timely manner, contributing to narrowing the expectation gap.
1.317	3.30	14	12	20	6	8	n	The use of artificial intelligence techniques using digital auditing increases credibility, reliability, and reduces doubt by financial report users.

Standard Deviation	Mean	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	N	Statement
1.243	3.20	8	20	16	8	8	n	Artificial intelligence techniques using digital auditing affect narrowing the expectation gap resulting from auditors' underperformance due to lack of efficiency.
1.234	3.83	26	10	14	8	2	n	The use of artificial intelligence techniques using digital auditing enhances auditors' efficiency in detecting and reporting fraud, positively impacting meeting users' expectations and narrowing the expectation gap.
1.042	3.50	8	28	12	10	2	n	The use of artificial intelligence techniques using digital auditing has a positive impact on shareholders' confidence in the audit report, reflecting on narrowing the expectation gap.

Source: Compiled by researchers based on the outputs of the statistical program (SPSS).

Table (4) indicates that the majority of the sample individuals' responses ranged between agreement and strong agreement for most of the third axis statements, with a mean ranging from (3.83) for the fifth statement to (3.20) for the fourth statement.

Second: Research Hypotheses Testing:

1. Testing the first hypothesis, which states (There is a significant effect of artificial intelligence techniques on improving the quality of external auditing):

For the purpose of testing the statistical significance of the research hypotheses, simple linear regression was used to demonstrate the effect of the variable (artificial intelligence techniques) on the variable (quality of external auditing).

Table (5) presents the results of the simple linear regression analysis to test the first hypothesis:

Regression Coefficients	Test (t)	Probability Value (Sig)	Interpretation
1.192	3.521	.0010	Significant
.6240	4.197	.0000	Significant
Correlation Coefficient (R)	.6210	Model Significant	
Determination Coefficient	.3860	-	
Test (F)	17.613	-	
Equation	y = 1.192 + 0.624 x1	-	

Source: Compiled by researchers based on the outputs of the statistical program (SPSS).

Based on the above table, the researchers concluded that the research hypothesis, which stated that "there is a statistically significant effect of artificial intelligence techniques on improving the quality of external auditing," has been verified.

For the purpose of testing the second hypothesis, which states that "there is a statistically significant effect of artificial intelligence techniques using digital auditing in reducing the expectation gap," simple linear regression was used to demonstrate the impact of the variable (external audit quality) on the variable (expectation gap). Table number (6) illustrates the results of simple linear regression analysis for testing the second hypothesis.

Table (6) Results of Simple Linear Regression Analysis for Testing the Second Hypothesis:

Regression Coefficients	t-Test	Probability Value (Sig)	Interpretation
0.6620	2.385	0.0240	Significant
0.8190	7.079	0.0000	Significant
Correlation Coefficient (R)	0.8010	Model Significant	
Coefficient of Determination	0.6420		
F-Test		50.114	

Equation: y=0.662+0.819x2y=0.662+0.819x2

Source: Compiled by researchers based on the outputs of the statistical software (SPSS 21).

Based on the above table, the researcher concludes that the research hypothesis, which stated that "there is a statistically significant effect of artificial intelligence techniques using digital auditing in reducing the expectation gap," has been confirmed.

Fourth: Conclusions and Recommendations

1- Conclusions:

1. The progress in using artificial intelligence techniques in Iraq significantly imposes a new reality on auditing offices and companies operating in Iraq, requiring external auditors to keep pace with this development and move towards benefiting from information and communication technology in providing auditing services.

2. Among the obstacles to using electronic programs in auditing is the cost of purchasing or developing and introducing electronic software, which requires accountants to have scientific knowledge in the most important software and applications, which may increase the cost of auditing services, as general programs may contribute to completing some auditing tasks.

3. Artificial intelligence improves the source and format of audit evidence by providing auditors and accountants with vast information and data, enabling them to analyze accounting information deeply and obtain more audit evidence.

4. The main problems of auditors applying the proposed role of activating artificial intelligence techniques are the rigidity of standards and the lack of professional experience and skills of auditors.

5. Artificial intelligence offers a mix of functions derived from various specialties and applications, which can lead to the integration and operational functions of auditing, thereby increasing the efficiency and effectiveness of assurance functions.

6. Artificial intelligence improves the source and format of audit evidence by providing auditors and accountants with vast information and data, enabling them to analyze accounting information deeply and obtain more audit evidence.

7. Using artificial intelligence in the auditing process leads to completing the audit process in the fastest possible time and with minimal effort and cost.

8. There is a positive effect of artificial intelligence techniques on improving the quality of external auditing and reducing the expectation gap.

9. The use of artificial intelligence techniques by auditing offices and companies has many advantages for the profession of external auditing, including facilitating the auditing process, saving time, and providing a lot of information to the auditor with minimal effort. However, the use of information technology by institutions has advantages for the auditing process, but it is not without risks. These risks include manipulation of information and the ability to change it, thereby misleading the auditor and obtaining incorrect information that affects his opinion on the fairness of the financial statements of the audited entity. Also, there is a risk of programs being hacked and infected with viruses, i.e., information security.

10. There are obstacles that hinder the use of digital auditing in achieving auditing quality and auditing strategy in auditing companies in the Kingdom of Bahrain. Among them are the cost of specialized electronic auditing software in addition to the need to organize digital auditing operations in terms of issuing laws and professional standards regulating the use of digital auditing in providing auditing services.

2- Recommendations:

1- It is necessary to enhance the awareness of accountants about the importance of artificial intelligence techniques using digital auditing in providing auditing services and its role in achieving the quality of the auditing process for auditing companies in the IT environment.

2- It is necessary to develop the professional performance of accountants in the areas of using electronic auditing in planning the audit process, collecting audit evidence, and preparing audit reports through holding training courses.

3- Encouraging accountants to join specialized training courses in the field of information technology and its uses in auditing.

4- It is necessary for academic institutions to activate awareness and perception among accountants and various professionals by conducting courses and training conferences in the field of modern technology, especially those based on the transition from human intelligence to artificial intelligence.

5- Responsible authorities for regulating and preparing standards should establish new standards for examining and regulating reliance on artificial intelligence techniques for analytical purposes in auditing procedures characterized by being more innovative for those technologies, including guidance on how to evaluate the efficiency of artificial intelligence specialists.

6- Encourage regulatory bodies for the profession of accounting and auditing in Iraq to introduce a local auditing standard that includes guidelines on how to deal with modern artificial intelligence technologies, which achieves the objectivity and quality of the auditing process and ensures the development of evidence in auditing, which positively reflects on reducing the expectation gap.

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