

The Impact of Using Artificial Intelligence on the Accounting and Auditing Profession in Light of the Corona Pandemic

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Abstract:

The study aims to identify the impact of the use of artificial intelligence on the accounting and auditing profession in light of the Corona pandemic. The descriptive and analytical approach was used to define the problem of the study and define the theoretical framework for the study. The statistical program (SPSS) was also used to answer research questions and test hypotheses. The two researchers used the questionnaire as a tool for the field study, as it was distributed to the study sample consisting of accountants and auditors from the owners of accounting and auditing offices in Gaza Strip, their number (170) questionnaires, and (155) questionnaires were retrieved. The results of the study concluded that there is a significant impact of the use of artificial intelligence on improving and developing the quality of professional performance of accountants and auditors, increasing the ability to complete complex accounting and auditing work, improving and developing the efficiency of accounting and auditing cadres, and developing accounting and auditing systems in light of the Corona pandemic. The study recommended the necessity for accounting and auditing offices in Gaza Strip to use artificial intelligence for the great cycle that it will undertake in improving the efficiency of the accounting and auditing process by providing the required results in a timely manner, especially in light of the Corona pandemic.

Keywords: artificial intelligence, accounting profession, auditing profession, Corona pandemic.

Introduction:

The world has entered a dangerous phase of the Coronavirus pandemic, and as a result the global economy incurred losses estimated by experts in the amount of \$160 billion, which is four times the loss of (SAS) virus (masralarabia.net), and for the seriousness of the matter, caution must be taken while thinking about modern technological alternatives to continue In working in various fields, to preserve human life, as the profession of accounting and auditing has developed with recent technological developments, and experts in accounting and auditing science expect that modern technology, including artificial intelligence, will constitute a qualitative leap in the practice of the profession of accounting and auditing during the next few years, although Some accounting and auditing companies have begun to apply artificial intelligence in their work, which depend on automation technology, analytics and perception technology, as the four largest accounting and auditing companies in the world cooperated with providers of artificial intelligence systems to use these systems for auditing

purposes, and in this case the inventory system was adopted through the work Robots and drones were used in internal and external audits (hbrarabic.com).

Despite this, the use of artificial intelligence in the field of practicing the profession of accounting and auditing is still in the early stages, despite the expectations stated by the Institute of Chartered Accountants in England, that artificial intelligence will make a radical change in the accounting and auditing profession in the near horizon (<https://oktob.io/posts>), and to keep pace with technological progress and linking artificial intelligence in accounting work, it is necessary to change the content and methods used in teaching accounting courses, which are still taught by traditional methods, as it is required to prepare accounting and auditing cadres to work as financial analysts and auditors with expertise in information technology and participants In developing accounting and auditing systems in order to increase the ability to perform complex accounting and auditing work.

Study Problem:

Despite the great technological development around the world, but until now, modern technological developments and the exploitation of the potential of artificial intelligence by practitioners of the accounting and auditing professions have not been adequately monitored, which is considered an alternative that helps in the continuity of business completion and not disrupting it in light of emergency and uncertain circumstances, such as the spread of The Corona pandemic, and to avoid the world's economic and human losses, and because the accounting and auditing profession is at the core of the jobs most affected by artificial intelligence, it is expected that this will increase the ability to complete complex accounting and auditing work, improve and develop the quality of professional performance of accountants and auditors, and improve and develop the proficiency of practitioners. Accounting and auditing, and the development of applied accounting and auditing systems, hence the research idea arose and can be formulated with the following main question:

What is the impact of using artificial intelligence on the accounting and auditing profession in light of the Corona pandemic?

From the main question, the following sub-questions are divided into:

- 1- What is the impact of using artificial intelligence on improving and developing the quality of accountants and auditors' professional performance in light of the Corona pandemic?
- 2- What is the effect of using artificial intelligence on increasing the ability to perform complex accounting and auditing work in light of the Corona pandemic?
- 3- What is the effect of using artificial intelligence on improving and developing the efficiency of accounting and auditing cadres in light of the Corona pandemic?
- 4- What is the impact of using artificial intelligence on developing accounting and auditing systems in light of the Corona pandemic?

Objectives of the study:

The study aims mainly for scientific rooting by identifying the impact of using artificial intelligence on the accounting and auditing profession in light of the Corona pandemic, and in order to achieve this main goal, the following sub-goals must be achieved:

- Explain the impact of using artificial intelligence on improving and developing the quality of accountants and auditors' professional performance in light of the Corona pandemic.
- Explaining the impact of using artificial intelligence on increasing the ability to perform complex accounting and auditing work in light of the Corona pandemic.
- Explaining the impact of using artificial intelligence on improving and developing the efficiency of accounting and auditing cadres in light of the Corona pandemic.
- Explaining the impact of using artificial intelligence on developing accounting and auditing systems in light of the Corona pandemic.

Importance of the study:

The importance of the study stems from the importance of its subject, which is based on artificial intelligence and its dimensions and measuring its impact on the accounting and auditing profession in light of the Corona pandemic, as the importance of artificial intelligence has become serving society in all areas, the most important of which are accounting and auditing work and various audit-related activities, and it has become indispensable. In dealing with complex accounting processes and improving accounting performance, developing accounting and auditing systems, and enhancing the capabilities and competence of practitioners in the profession of accounting and auditing, which will allow researchers and specialists to use and benefit in this field through the results of the current study and the recommendations it provides.

Study hypotheses:

Main hypothesis:

There is an impact of using AI on the accounting and auditing profession in light of the Corona pandemic.

From the main hypothesis, the following sub-hypotheses branch out:

The first sub-hypothesis: There is an impact of using artificial intelligence on improving and developing the quality of accountants and auditors' professional performance in light of the Corona pandemic.

The second sub-hypothesis: There is an effect of using artificial intelligence to increase the ability to perform complex accounting and auditing work in light of the Corona pandemic.

The third sub-hypothesis: There is an impact of using artificial intelligence on improving and developing the efficiency of accounting and auditing cadres in light of the Corona pandemic.

Fourth sub-hypothesis: There is an impact of the use of artificial intelligence on the development of accounting and auditing systems in light of the Corona pandemic.

The limits of the study:

The study limits are as follows:

1. Spatial limits: This study was applied to accounting and auditing offices operating in the Gaza Strip.

2. Temporal boundaries: This study will be prepared in the year 2020.
3. Human limits: This study was applied to accountants and owners of accounting and auditing firms.
4. Scientific Frontiers: Studying the impact of using artificial intelligence on the accounting and auditing profession in light of the Corona pandemic.

Theoretical framework and literature of the study:

First: The theoretical framework of the study

1- The concept and importance of artificial intelligence in accounting:

Artificial Intelligence is the term and is referred to by the acronym (AI), which is a basic branch of computer science and an important pillar of the current technology industry, and is defined as the ability of digital machines and computers to carry out certain tasks that simulate the tasks performed by intelligent beings (humans) such as the ability to think and learn from experiences. The previous stage and the completion of tasks that require mental operations, and the artificial intelligence aims to reach systems that have intelligence and act in the same manner as humans do by relying on learning and understanding and through that it provides its users with different services that have accuracy and speed in completion (<https://mawdoo3.com>), Artificial Intelligence, as a branch of computer science, is concerned with studying computer systems that depend on intelligence, learn new concepts and tasks, and can think and draw useful conclusions, absorb natural languages and visual scenes, and perform work that requires human intelligence (Al-Ratami, 2012). According to Yaseen's definition (2012) that artificial intelligence is the intelligence that man creates or manufactures in a machine or computer, and it is the intelligence that man originates and gives to the machine or computer, and it is a science that is known on the basis of its goal, which is to make machines (computer systems) do things that need intelligence.

Anbar and Muhammad (2016) believe that artificial intelligence is one of computer applications and is interested in building programs capable of studying and implementing repetitive activities carried out by humans and that it aims to understand complex mental processes and transform them into accounting processes that are solved in seconds.

As for Belhamou Warzi (2017), artificial intelligence is "a part of computer science that aims to simulate a cognitive ability to replace humans in performing appropriate functions in a specific context that require intelligence."

Here, the two researchers see that the idea of artificial intelligence depends on the ability of the machine (computer) to communicate or speak with individuals and deliver information to them (as feedback) as if they are dealing with their same gender, without realizing that they are communicating with a smart machine.

On the importance of artificial intelligence, PwC expects that investing in artificial intelligence will increase the value of global output by \$ 15.7 trillion by 2030, an increase of 26% for the countries that invest in it most ([www. Sabspace.com](http://www.Sabspace.com)). As for the importance of artificial intelligence for the accounting profession, it can be summarized as follows (www.educba.com):

- Assist in business continuity relentlessly through supercomputers and the automated world.

- Helping to accomplish daily life tasks through the available applications, as artificial intelligence provides many applications such as smartphones through which and through applications, accounting tasks such as bank transfers, financial payments, settlement of accounts and others are accomplished.
- The use of artificial intelligence to provide accounting services, as many large institutions have relied on artificial intelligence systems to provide services to their customers instead of the traditional employee, such as sales, purchases, receiving orders, dispatches, and reservations through smart applications.
- The ability to process and store huge amounts of data and shorten the processing cycle.
- Artificial intelligence devices can accurately perform accounting tasks and reduce the error rate.
- Artificial intelligence systems can perform difficult and complex accounting work, such as large numbers and many operations.
- Artificial intelligence can be used to respond to clients' inquiries, receive complaints, analyze their documents, and reach the desired results (www. Sabspace.com).
- Artificial intelligence can be harnessed to track customers, analyze their directions, purchases, and records, the largest evidence of that is the e-commerce giant (Amazon).
- Reducing the chance of errors occurring by replacing human processes with automated processes that can duplicate the work
- Through artificial intelligence, time-consuming work is replaced by time-efficient work, such as the ability to view thousands of contracts and extract information from them with an accuracy that exceeds human accuracy and within minutes, which is difficult for humans (www. Sabspace.com).
- The possibility of replacing humans with artificial intelligence robots or drones in the audits of large companies, to take the necessary samples and complete inventories, and this has become necessary in light of the Covid 19 pandemic.
- The ability to analyze data and make predictions with a high degree of accuracy and validity.

As for the goals and motives of interest in artificial intelligence, the British Arab Academy (2019) has identified two main goals for artificial intelligence:

- Enabling machines to process information, solve problems, and execute several commands at the same time, in a manner very close to the human way.
- A better understanding of what human intelligence is by simulating the human brain and nervous system to recognize objects.
- As for the motives for interest in artificial intelligence, Majid (2018) identified it as follows:
 - Artificial intelligence has become an indispensable necessity in all areas of life, and because of its importance, it has developed rapidly, and spending on it continues to exceed billions in Asian countries, especially those that have become a leading global resource for artificial intelligence applications.

- Artificial intelligence reduces the hardship of humans in carrying out dangerous work.
- Artificial Intelligence will work for self-development through programs for learning machines, logic, self-correction and self-programming.
- One of the most important motives of artificial intelligence is the focus on sensory learning to meet the requirements of industrial developments and applications of artificial intelligence.

2- Using artificial intelligence to improve and develop the quality of professional performance of accountants and auditors in light of the Corona pandemic:

The superior capabilities of computers have allowed new uses that were impossible in previous years, for example: Betterment provides a financial advisor who invests the clients' portfolio through artificial intelligence, and the assets managed by the company's automated system have increased to more than \$13.5 billion during A record period, and some banks use artificial intelligence to analyze customer accounts and know their credit capabilities before lending them, and also when following up on their loan installments (<https://www.sabspace.com>).

According to Khawalid (2019), the importance of artificial intelligence applications in business organizations works to improve decision-making, solve all administrative problems, reduce costs and improve quality, which helps the organization to survive and enhance competition.

In a research study conducted by (Anbar, Muhammad, 2016) based on the idea of preparing an electronic program that performs all auditing work, starting with planning, passing through by choosing the size of samples and documenting working papers, and ending with obtaining a draft report and a report on evaluating the performance of the control work, and the result was that the adoption of intelligence technology Artificial in the stages of the audit process will lead to the success of the audit task and improve its quality.

According to an interview with Abu Ghazaleh (2020), in which he stated that the entire auditing work in light of the Corona pandemic was carried out by the auditor and from his office without moving to the client, through the digital auditor and by relying on digital technologies.

According to the researchers' experience, a lot of the accounting and auditing work for institutions and societies in light of the Corona pandemic, which is being accounted for and audited by one of the international auditing companies, relied on the sample system through e-mail, as all systems adopt an electronic archiving system and thus the auditor can audit the required samples. Through modern technologies, which are part of artificial intelligence, even donors and financiers are able to monitor the implemented projects through electronic auditing.

3- Using artificial intelligence to increase the ability to perform complex accounting and auditing work in light of the Corona pandemic:

In the field of completing accounting and auditing work, the catalytic aspect of this promising technology is its ability to reduce the time spent by accounting and auditing

companies in examining and analyzing financial data, as artificial intelligence programs will be able to complete all accounting stages for a full year and match them with approved standards, discover errors, assess risks and review Accounts, bank reconciliations, preparation of reports that serve the organization, and suggesting solutions within a few minutes (www.aljazeera.net).

Also, companies of all sizes must benefit from the power of artificial intelligence to enhance financial operations, and this is done in the following ways (Briqa, 2018):

- Access to the basics of accounting and auditing for all people, as people vary in the ability to understand complex numbers, and therefore artificial intelligence can be used to do this task and thus leave the audit task to accountants, meaning that artificial intelligence is relied upon to reduce the burden of accounting work by reducing It is a frequent task and making smarter financial decisions under unusual circumstances, especially in light of the Corona pandemic.
- It improves efficiency and speeds up the delivery process, as artificial intelligence performs large-scale tasks that are impossible to accomplish by humans at the same time.
- It increases accuracy, as artificial intelligence has a high ability to detect errors immediately and this ensures accuracy in business other than the workforce of accountants.
- It improves the auditing process, as artificial intelligence can identify company policies and analyze data in large quantities to ensure that there are no discrepancies, and detect and report incorrect financial data to be removed.
- Artificial intelligence helps solve many of the daily challenges facing any business and enables it to work better, smarter and efficiently.

4- Using artificial intelligence to improve and develop the efficiency of accounting and auditing cadres in light of the Corona pandemic:

Artificial intelligence techniques need competent people who design, build and test their own technologies such as expert systems and others, as the person carrying out this task, which requires preparing a smart accounting program, for example, needs to have a high understanding, awareness and knowledge in the accounting field, and for this the person designing this system is called Knowledge engineer because his tasks are more difficult and more complex than a regular programmer and require sophisticated skills, such as the ability to analyze problems, skill and assimilate ideas from the expert in the field of accounting and his ability to formulate ideas, technology and programming skill (Yassin, 2017). Hence the importance of artificial intelligence techniques to create cadres and competencies of accountants and auditors who in turn build the accounting idea and develop the required perception to improve the accounting work and auditing through scientific skill and professional experience, as well as their experience in dealing with accounting information systems, and therefore ideas are exchanged and presented to the knowledge engineer to prepare Techniques that are commensurate with the accounting work and auditing, which are relied upon to deal with the accounting data accurately and

quickly and to prepare the final reports according to the instructions of the accounting system and in the finest vision.

Here, the researchers see that artificial intelligence helps increase the intellectual, innovative and productive energy of man in parallel with the increase in the intelligence of machines and tools, as it changes both humans and the machine for the better, and artificial intelligence can also be used when practicing the profession of accounting and auditing when epidemics such as the Corona pandemic.

5- Using artificial intelligence to develop accounting and auditing systems in light of the Corona pandemic:

The basis for the development of the accounting and auditing profession is its reliance on modern electronic systems, which are one of the branches of artificial intelligence that integrate knowledge and solve complex problems and have distinctive characteristics, the most important of which are speed, accuracy and shortening of time, and since the four big audit firms began competing to invest in artificial intelligence technology, Its implications for the development of accounting systems are as follows (www.Sabspage.com):

- Collaboration took place between KPMG and IBM to develop tools for smart auditing, and a platform called KPMG Calra was designed.
- The office seeks to develop a program to analyze non-traditional data with artificial intelligence, such as data published in the media, the Internet and communication networks, to monitor all types of risks.
- The PWC office has designed a smart program that can monitor any abnormal things that may occur in the company's accounts, and it has been called (GL AI) program.
- Small and medium companies depend on the Pegg program, which is an artificial intelligence program that chats with the user and as soon as he is informed of the expenses, the program records them in the company's accounts, prepares the financial statements and prepares tax data without the user's need for any accounting experience.
- Abu-Ghazaleh believes that in the next few years, the profession of auditing will move from the human auditor to the Audit Tech program, and this program will be more accurate, fast and able to discover errors and irregularities in comparison with standards, and it will also be based on international accounting and auditing standards. The program functions to provide suggestions and options to the economic decision-maker in order to improve the financial position of institutions, and to evaluate the results of their business, (www.aljazeera.net).
- Through artificial intelligence, the term automation of automated processes appeared as a new field in auditing, and the major audit firms (Big 4) have relied on it through their cooperation with artificial intelligence system providers, and this automation has been relied upon in the field of internal control and the inventory system through robots, and the use of aircraft. Drone in internal and external audit (Qasim, 2020).

- In the opinion of researchers, the development of artificial intelligence technologies has created a new generation of smart accounts and expert systems that simulate human behavior, and have been programmed to carry out tasks and attributes that require a high capacity of deduction, perception and deduction, which is not one of the characteristics of inanimate objects, but rather distinguishes humans from the machine.

Second: the literature of the study:

Through the researchers familiarizing themselves with the subject of the study, the most important studies related to the main study element, which is artificial intelligence, have been summarized, and they will be summarized in brief:

- 1- The study (Al-Jaber, 2020), which dealt with the study of the impact of artificial intelligence on the efficiency of accounting systems in Jordanian banks, and relied on the descriptive approach to show the results, which demonstrated the existence of an impact of the use of artificial intelligence on the efficiency of accounting systems in Jordanian banks and recommended strengthening its use in banks.
- 2- A study (Osmania, 2019), which dealt with the basic concepts of artificial intelligence and relied on the inductive approach to reach the most important result, which revolves around the idea that artificial intelligence is the intelligence that humans make in machines or computers and is considered a qualitative leap in the rights of theoretical and applied sciences. Transferring the intelligence of the human brain to computer devices, and the study recommended the adoption of artificial intelligence applications in business organizations.
- 3- The study (Bozerb, 2019), which aimed to analyze the reality of applying artificial intelligence in the Indian banking sector, and to achieve this it adopted the inductive approach and through it it concluded that the application of artificial intelligence is positive to gain the satisfaction and loyalty of workers, reduce costs and eliminate human errors, and recommended banks to take advantage of capabilities New and invest in them.
- 4- A study (Chukwudi, et.al, 2018), which aimed to find out the impact of artificial intelligence in its dimensions on the performance of accounting operations among accounting firms, and a descriptive analytical approach was adopted, through which it was proven that the application of artificial intelligence positively affects the performance of accounting functions, and accordingly recommended The study companies are constantly improving their knowledge regarding artificial intelligence.
- 5- A study (Simon, 2018), which aimed to know the future of accounting without human intervention through the effect of automation and artificial intelligence on the accounting profession, and the results showed that the accountant will use automation for routine tasks instead of replacing him, as the tasks that require thinking Cash is more difficult to automate with accountants' expectations that in the future technology will be able to help accountants in non-recurring tasks, the business model for accounting firms will change and accountants who are not ready for automation will be exposed to the risk of being replaced by automation, and accordingly the study

recommended that more studies be done on the idea of investigating A future in accounting without human intervention.

- 6- The study (Raqiq, 2015), which aimed to shed light on the use of artificial intelligence applications in managing the activities of institutions, and relied in this on the deductive approach through which it proved that artificial intelligence helps decision-making as it helps employees and facilitates them to accomplish difficult tasks. He has a major role in running and managing the activities of the institution, and the study recommended making use of these applications, updating them constantly, and allocating special funds for them.
- 7- The study (Othman, Jamil, 2012), which aimed to explore the possibility of using artificial intelligence techniques in controlling the quality of internal auditing in its dimensions in the Jordanian joint-stock companies. The descriptive analytical approach was relied upon to demonstrate the existence of a positive impact of using artificial intelligence techniques in reviewing the quality of internal auditing and related to The professional care, management of internal audit activities, evaluation of risk management, planning and implementation of the audit process, and recommended attention and focus on artificial intelligence techniques for their importance in the development of internal audit.

Third: Field study and analysis of results:

The researchers review the study methodology, sources of data collection, as well as the characteristics of the study population (the research sample) and the most important results of the statistical analysis that were obtained after analyzing the data included in the questionnaire.

- 1- **Study methodology and data collection:** the researchers use the descriptive and analytical approach, and data were collected from secondary sources represented in books, magazines, periodicals and scientific research related to the subject of the study, in addition to the primary data sources represented by the study tool (questionnaire), which was designed to identify the opinions of the study sample With regard to the use of artificial intelligence on the accounting and auditing profession in light of the Corona pandemic, the questionnaire consisted of two main parts: the first section includes demographic data represented in (academic qualification, job title, years of experience), and the second section dealt with the axes of the study prepared to test the study hypotheses .
- 2- **Study population and sample:** The study population consisted of accountants, auditors and owners of accounting and auditing offices operating in the Gaza Strip, who numbered (220) accountants and auditors, and a random sample of 170 accountants and auditors was chosen. Where a questionnaire was distributed to the study sample, and then (15) questionnaires were excluded because some of the answers were not completed, so that the number could be analyzed using the statistical packages program (SPSS), and (155) questionnaires were retrieved with a recovery rate of (92%) approximately, and Table No. 1) Explains the number and characteristics of the study sample:

Table (1): The functional and personal characteristics of the study sample

Statement		Repetition	The ratio %
Qualified scientific	PhD	9	5.8
	M.A.	31	20.0
	Bachelor	115	74.2
	Other	0	0
Job title	Office owner	59	38.1
	Partner in an office	17	10.9
	Accountant	71	45.8
	Other	8	5.2
Years of Experience	Less than 5 years	37	23.8
	From 5 to less than 10 years	30	19.5
	From 10 years to less than 15 years	46	29.6
	15years and over	42	27.1
	Total	155	100.0

Source: Researchers' preparation, 2020, based on the questionnaire data

It is clear from Table (1) that:

- The percentage of the study sample of PhD holders is (5.8%), while the percentage of those who hold a master’s degree is (20.0%), while those with a bachelor’s degree were (74.2%). Consequently, the sample of the study that answered the questionnaire are those with specialization in the field of accounting and auditing, and holders of high and intermediate academic qualifications that were targeted by the study.
- The percentage of the study sample of managers of an accounting and auditing office is (38.1%), while the percentage of those who are partners in an accounting and auditing office is (10.9%), while the percentage of accountants in an accounting and auditing office was (45.8%). This indicates that the majority of workers in Accounting and auditing firms are accountants and auditors' who have extensive knowledge, knowledge and experience.
- A percentage (23.8%) of the study sample is less than (5) years of service in the accounting and auditing profession, while the percentage of those whose years of service ranges from (5) years to less than (10) years is (19.5%). The percentage of those whose years of service was between (10) years and less than (15) years was (29.6%), while the percentage of their years of service was greater than (15) years (27.1%), which reflects that the study sample is of those with experience in the accounting process. And auditing,

being informed and following up on the development that takes place in the accounting and auditing profession.

3- The validity and reliability of the study instrument: the validity and reliability of the study instrument was verified through the apparent validity (the validity of the opinions of the arbitrators). For its paragraphs as follows:

- A. Constructive validity: The two researchers verified the extent of the structural validity of the questionnaire by calculating the correlation coefficients between each axis of the questionnaire and the total degree of the axes combined. With a high reliability coefficient, and all the study axes have a strong correlation coefficient, as the value of the Pearson correlation coefficient between the axes reached (0.921) when the value of the significance level Sig is less than (0.05) where the value of Sig is (0.000). Therefore, the resolution is considered true when Put it to measure.
- B. The stability of the questionnaire: the stability of the questionnaire means the degree of its consistency, consistency and continuity when it is repeated at different times. The whole paragraphs of the resolution are (0.950), and the value of the Cronbach alpha coefficient is high for each axis of the resolution, ranging between (0.864 - 0.922), which means that the stability is high and statistically significant.

Table (2): Scale validity coefficients between the paragraphs of the axes of the questionnaire and the total score.

The axes	Number of paragraphs	Factor Persistence	Factor Honesty Constructivist	Correlation coefficient	Level of morale
The first axis : artificial intelligence and the development of professional performance of accountants and auditors.	6	0.918	0.958	0.892	0.000
The second axis : artificial intelligence and increasing the ability to perform complex accounting and auditing work.	6	0.864	0.930	0.891	0.000
The third axis : artificial intelligence and improving and developing the efficiency of accounting and auditing cadres.	6	0.922	0.960	0.921	0.000
Fourth Topic: Artificial Intelligence and the development of accounting and auditing systems.	5	0.867	0.931	0.888	0.000
Total score for all axes	23	0.950	0.975	-	0.000

Source: Researchers' preparation, 2020, based on the questionnaire data

4- Hypothesis test: To test the study hypotheses, the arithmetic mean and standard deviation of the relative arithmetic mean were calculated, as well as using the value of the (T) test for one sample (One Sample T test) to analyze the paragraphs of the questionnaire and test the hypotheses. The five-point Likert scale was used and this scale was coded as follows:

Table (3): The degrees of the five Likert scale

Degree of approval					
Response	Too big	big	Medium	Few	Very few
Class	5	4	3	2	1
Degree of approval	Too high	High	Medium	Low	Too low
The arithmetic mean	4.20 - 5	3.40-4.19	2.60 - 3.39	1.8 - 2.59	1 - 1.79
Relative weight	Greater than%84	- %68 %83.9	- %52 %67.9	- %36 %51.9	Less than%36

Source: Lee Cart, 1932

Looking at the above table, we find that the closer we approach the degree (5), the greater the intensity of approval of the statement, while the intensity of the opposition increases the closer we approach the degree (1). Results of testing the study hypotheses and analyzing its axes according to the following:

First: the statistical analysis of the first hypothesis: which states: “There is interest among Palestinian universities to use electronic accounting education in accounting departments,” where the results of the analysis were as in Table (4):

Table (4): Results of statistical treatments for the paragraphs of the first axis Artificial Intelligence and Professional Performance Development

M	Statement	Average	Standard deviation	The average arithmetic mean relative	Test value t	The probability value Sig	Rank
1	The use of artificial intelligence leads to the success of the tasks of accountants and auditors and the improvement of their professional performance in light of the Corona pandemic.	4.22	0.87	84.33	10.89	0.00	1
2	The use of artificial intelligence improves and develops the practice of the accounting and auditing profession by providing the best services to its users in light of the Corona pandemic.	4.15	0.84	83.00	10.60	0.00	3
3	The use of artificial intelligence leads to an increase in the efficiency and effectiveness of the accounting and auditing process in light of the Corona pandemic.	4.14	0.90	82.71	9.70	0.00	4
4	The use of artificial intelligence improves technical and organizational services that help in how accounting and auditing work is carried out in light of the Corona pandemic.	4.20	0.71	84.00	13.12	0.00	2
5	The use of artificial intelligence provides reliable, accurate and high-quality data for decision-making in light of the Corona pandemic.	4.02	0.95	80.33	8.31	0.00	6
6	The use of artificial intelligence improves the efficiency of the accounting and auditing process by providing the required results in a timely manner in light of the Corona pandemic.	4.08	0.81	81.67	10.38	0.00	5
The first axis		4.14	0.68	82.72	12.95	0.00	-

Source: Researchers' preparation based on the field study, 2020.

From Table (4) the researchers conclude the following:

- 1- The arithmetic mean of all the expressions of the first axis is greater than the fixed neutral mean value, which is represented by the number (3) between acceptance and non-acceptance, as the arithmetic averages for the paragraphs of the axis ranged between (4.02-4.22).

- 2- Paragraph (1) I got the first place, which states: “The use of artificial intelligence leads to the success of accountants’ tasks and improves their professional performance in light of the Corona pandemic, ”with an arithmetic average of (4.22) with a relative weight (84.33%), and a value of (t) It reached (10.89) when the value of the significant level of Sig was less than (0.05), where the value of Sig was (0.000).
- 3- The last rank came to Paragraph (5), which states: “The use of artificial intelligence provides reliable, accurate, and reliable data for decision-making in light of the Corona pandemic,” with an arithmetic mean of (4.02) and a relative weight (80.33%), and a value of (t) It reached (8.31) when the value of the significant level of Sig was less than (0.05), where the value of Sig was (0.000).

From the above, it is clear that all the answers of the study sample showed a general trend towards approval of the paragraphs of the first axis, and thus the acceptance of the first hypothesis that states: “There is an impact of using artificial intelligence on improving and developing the quality of professional performance of accountants and auditors in light of the Corona pandemic.” During the general arithmetic mean of the first axis paragraphs, where the general arithmetic mean value (4.14 overall score out of 5), with relative weight (82.72%), which is greater than the mean relative weight of 60% and a standard deviation (0.68) and that the value of (T) test equals (12.95) , And the value of the level of significance Sig is less than (0.05), where the value of Sig is (0.000), and the researchers attribute that to the accountants and auditors of the study sample believe that the use of artificial intelligence may improve and develop the quality of the professional performance of accountants and auditors, especially in light of crises and epidemics. Precisely in light of the Corona pandemic.

Second: The statistical analysis of the second hypothesis: which states: “There is an effect of using artificial intelligence to increase the ability to perform complex accounting and auditing work in light of the Corona pandemic,” as the results of the analysis were as in Table (5):

Table (5): Results of statistical treatments for the paragraphs of the second axis "Using artificial intelligence and increasing the ability to perform complex accounting and auditing work"

M	Statement	Average	Standard deviation	The average arithmetic mean relative	Test value t	The probability value Sig	Rank
1	The use of artificial intelligence increases the degree of confidence in prepared financial statements that are free of fundamental distortions and errors in light of the Corona pandemic.	3.83	0.85	76.67	7.62	0.00	6
2	The use of artificial intelligence leads to the completion of accounting and auditing tasks and tasks that need high speed and accuracy in light of the Corona pandemic.	4.07	0.84	81.33	9.82	0.00	3
3	Artificial intelligence helps in the process of handling complex accounting and auditing processes, trying to find solutions to them, and helping to make appropriate decisions in light of the Corona pandemic.	3.97	0.86	79.33	8.68	0.00	5
4	The use of artificial intelligence by practitioners of the accounting and auditing professions adequately helps in the continuity of workers' achievement and not disrupting them in light of emergency conditions such as the spread of the Corona pandemic.	4.13	0.81	82.67	10.81	0.00	2
5	Exploiting the potential of artificial intelligence to accelerate the completion of accounting and auditing processes, improve performance and obtain a high competitive advantage in light of the Corona pandemic.	4.17	0.81	83.33	11.21	0.00	1
6	The use of artificial intelligence leads to reducing the burden of accounting and auditing work by reducing repetitive tasks and can help make more informed financial decisions in light of the Corona pandemic.	4.07	0.73	81.33	11.27	0.00	3
The second axis		4.04	0.59	80.78	13.74	0.00	-

Source: Researchers' preparation based on the field study, 2020.

From Table (5) the researchers conclude the following:

- 1- The arithmetic mean of all the expressions of the first axis is greater than the value of the constant neutral average, which is represented by the number (3) between

acceptance and non-acceptance, as the arithmetic averages of the paragraphs of the axis ranged between (3.83-4.17).

- 2- Paragraph (5) I got the first place, which states: “Exploiting the capabilities of artificial intelligence to accelerate the completion of accounting and auditing processes, improve performance, and obtain a high competitive advantage in light of the Corona pandemic,” with an average of (4.17) and a relative weight (83.33) %, And the value of (t) reached (11.21) when the value of the significance level Sig was less than (0.05), where the value of Sig was (0.000).
- 3- Paragraph (1) I got the last rank, which states: “The use of artificial intelligence increases the degree of confidence in prepared financial statements and they are free from fundamental distortions and errors in light of the Corona pandemic,” with an arithmetic average of (3.83) and a relative weight (76.67%), and a value of (t) reached (7.61) when the value of the significance level Sig was less than (0.05), where the value of Sig was (0.000).

From the above, it is clear that all the answers of the study sample showed a general trend towards approval of the paragraphs of the second axis, and thus the acceptance of the second hypothesis, which states: “There is the effect of using artificial intelligence on increasing the ability to perform complex accounting and auditing work in light of the Corona pandemic.” Through the general arithmetic mean of the paragraphs of the second axis, where the value of the general arithmetic mean (4.04 overall score out of 5), with relative weight (80.78%), which is greater than the average relative weight of 60% and a standard deviation (0.59), and that the value of (t) test is equal to (13.74), and the value of the level of significance Sig was less than (0.05), where the value of Sig was (0.000), and the researchers attribute that that the use of artificial intelligence will increase the ability to perform complex accounting and auditing work in light of the Corona pandemic.

Third: the statistical analysis of the third hypothesis: which states “the effect of using artificial intelligence on improving and developing the efficiency of accounting and auditing cadres in light of the Corona pandemic,” as the results of the analysis were as in Table (6):

Table (6): Results of statistical treatments for the third axis paragraphs Artificial Intelligence and improving and developing the efficiency of accounting and auditing cadres

S.	Statement	Average	Standard deviation	The average arithmetic mean relative	Test valve t	The probability value Sig	Rank
1	The use of artificial intelligence improves the quality of professional performance of practitioners in the accounting and auditing profession, increases confidence in the outcome of their work, and enhances their advisory role in light of the Corona pandemic.	4.02	0.79	80.33	9.95	0.00	6
2	The use of artificial intelligence increases the development of the accountant and auditor's efficiency by providing them with experiences and skills related to the practice of the profession.	4.22	0.76	84.33	12.38	0.00	2
3	The use of artificial intelligence increases the high mental capabilities of accountants and auditors, which leads to raising their level of efficiency in light of the Corona pandemic.	4.08	0.85	81.67	9.88	0.00	4
4	The use of artificial intelligence increases the scientific and technical knowledge of the accountant and auditor in light of the Corona pandemic.	4.08	0.89	81.67	9.44	0.00	4
5	The use of artificial intelligence requires that the accountant and auditor be qualified and more effective to contribute to the design of the accounting and auditing system to meet the needs of professional work in light of the Corona pandemic.	4.37	0.74	87.33	14.39	0.00	1
6	The use of artificial intelligence has an important role in developing performance and improving skills, especially when there are no highly experienced accountants and auditors available.	4.17	0.81	83.33	11.21	0.00	3
The third axis		4.16	0.65	83.11	13.78	0.00	-

Source: Researchers' preparation based on the field study, 2020.

From Table (6) the researchers conclude the following:

- 1- The arithmetic mean of all the expressions of the third axis is greater than the value of the constant neutral average, which is represented by the number (3) between acceptance and non-acceptance, as the arithmetic averages of the paragraphs of the axis ranged between (4.02-4.37).
- 2- Paragraph (5) I got the first place, which states: “The use of artificial intelligence requires that the accountant and auditor be qualified and more effective to contribute to the design of the accounting and auditing system to meet the needs of professional work in light of the Corona pandemic,” with an arithmetic average of (4.37) and a relative weight (87.33%), and the value of (t) reached (14.39) when the value of the significance level Sig was less than (0.05), where the value of Sig was (0.000).
- 3- The last rank came to Paragraph (1), which states: “The use of artificial intelligence improves the quality of professional performance of practitioners in the profession of accounting and auditing, increases confidence in the outcome of their work and strengthens their advisory role in light of the Corona pandemic,” with an arithmetic average of (4.02) and a relative weight (80.33%).), And the value of (t) reached (9.95) when the value of the significance level Sig was less than (0.05), where the value of Sig was (0.000).

From the above, it is clear that all the answers of the study sample showed a general trend towards approval of the paragraphs of the third axis, and thus the acceptance of the third hypothesis, which states: “There is an effect of using artificial intelligence on improving and developing the efficiency of accounting and auditing cadres in light of the Corona pandemic.” The general arithmetic mean of the third axis paragraphs, where the general arithmetic mean value is (4.16 overall score out of 5), with relative weight (83.11%), which is greater than the average relative weight of 60% and with a standard deviation (0.65) and that the value of (T) test is equal to (13.78) , and the value of the level of significance Sig is less than (0.05), where the value of Sig is (0.000), and the researchers attribute that to the study sample of accountants and auditors in their opinion that the use of artificial intelligence will lead to improving and developing the efficiency of accounting and auditing cadres working in accounting and auditing offices in The Gaza Strip, especially in disasters and crises, such as the Corona pandemic.

Fourth: The statistical analysis of the fourth hypothesis: which states “there is an impact of using artificial intelligence on the development of accounting and auditing systems in light of the Corona pandemic,” as the results of the analysis were as in Table (7):

Table (7): Results of statistical treatments for the fourth axis paragraphs Artificial Intelligence and the Development of Accounting and Auditing Systems

S.	Statement	Average	Standard deviation	The average arithmetic mean relative	Test valve t	The probability value Sig	Rank
1	The use of artificial intelligence and its applications leads to overcoming deficiencies in the applied aspects when practicing the profession of accounting and auditing in light of the Corona pandemic.	4.12	0.76	82.33	11.36	0.00	4
2	The use of artificial intelligence helps to develop accounting systems and raise their efficiency in storing and retrieving information in light of the Corona pandemic.	4.28	0.72	85.67	13.90	0.00	1
3	The use of artificial intelligence has an effective role in developing accounting systems and providing valuable information to help in making effective decisions in light of the Corona pandemic.	4.11	0.74	82.30	11.34	0.00	5
4	The use of artificial intelligence contributes to enhancing the role of accounting systems to protect data from manipulation and fraud in light of the uncertainty associated with the Corona pandemic.	4.20	0.71	84.00	13.12	0.00	3
5	The use of artificial intelligence contributes to providing electronic accounting and auditing reports with a high degree of accuracy in preparation and results in light of the Corona pandemic.	4.25	0.68	85.00	14.25	0.00	2
Fourth axis		4.19	0.54	83.87	17.08	0.00	-

Source: Researchers' preparation based on the field study, 2020.

From Table (7) the researchers conclude the following:

- 1- The arithmetic mean of all the expressions of the fourth axis is greater than the fixed neutral mean value, which is represented by the number (3) between acceptance and non-acceptance, as the arithmetic averages of the paragraphs of the axis ranged between (4.11-4.28).
- 2- Paragraph (2) I got the first place, which states: “The use of artificial intelligence helps to develop accounting systems and raise their efficiency in storing and retrieving information in light of the Corona pandemic,” with an arithmetic average of (4.28) and a relative weight (82.33%), and a value of (t It reached (11.36) when the value of the significance level Sig was less than (0.05), where the value of Sig was (0.000).
- 3- The last rank came to paragraph (3), which states: “The use of artificial intelligence has an effective role in developing accounting systems and providing valuable information to help in making effective decisions in light of the Corona pandemic,” with an arithmetic average of (4.11) and a relative weight (82.30%), The value of (t) reached (11.34) when the value of the significance level Sig was less than (0.05), where the value of Sig was (0.000).

From the above, it is clear that all the answers of the study sample showed a general trend towards approval of the paragraphs of the fourth axis, and thus the acceptance of the fourth hypothesis, which states: “There is an effect of using artificial intelligence on developing accounting and auditing systems in light of the Corona pandemic.” This is shown through the arithmetic mean The general value of the fourth axis paragraphs, where the value of the general arithmetic mean (4.19 overall score out of 5), with relative weight (83.87%), which is greater than the average relative weight of 60% and a standard deviation (0.45) and that the value of the (T) test is equal to (17.08). The value of the level of significance Sig is less than (0.05), where the value of Sig is (0.000), and the researchers attribute that to the study sample of accountants and auditors who believe that the use of artificial intelligence will lead to the development of accounting and auditing systems for accounting and auditing offices operating in the Gaza Strip, especially in light of Disasters and crises like a Corona pandemic. Regression analysis:

Table (8): Standard regression analysis of the dependent variable accounting and auditing profession.

Independent variables	Regression coefficients	Standard error	Standard regression coefficients Beta	Value t	The probability value sig.	Significance level at (0.05)
Constant	0.162	0.445	-	0.363	0.718	
Developing the professional performance of accountants and auditors	0.260	0.149	0.218	1.849	0.077	Not Sig.
Complex accounting and auditing work	0.293	0.157	0.253	1.864	0.068	Not Sig.
Development of accounting and auditing cadres	0.433	0.152	0.414	2.847	0.006	Sig.
Development of accounting and auditing systems	0.236	0.184	0.188	1.287	0.203	Not Sig.
Analysis of variance ANOVA						
Test value F	30.778	The value of the modified interpretation coefficient R ²		0.662	The probability value	0.000

Source: Researchers' preparation based on the field study, 2020.

Noting from the table that the constant regression coefficient has reached (0.162), and its effect is positive and significant at a level (0.05), and that artificial intelligence has a statistically significant effect at a significance level ($\alpha \leq 0.05$) in the profession of accounting and auditing in the field of developing accounting and auditing cadres , The regression coefficient reached (0.433), and there is a positive, non-significant effect at the level of (0.05) for the rest of the fields, which include (developing the professional performance of accountants and auditors, complex accounting and auditing work, and developing accounting and auditing systems).

The effect equation can be formulated as follows:

Accounting and auditing profession = $0.162 + 0.433$ (developing accounting and auditing cadres)

Results and recommendations of the study:

Results of the study: In light of analyzing the questionnaire data, the researchers reached the following results:

1. There is a significant impact of the use of artificial intelligence on improving and developing the quality of professional performance of accountants and auditors in light of the Corona pandemic, with an arithmetic average (4.14), and a relative weight (82.72%).
2. There is a significant impact of using artificial intelligence on increasing the ability to perform complex accounting and auditing work in light of the Corona pandemic, with an arithmetic average (4.04), and a relative weight (80.78%).
3. There is a significant impact of using artificial intelligence on improving and developing the efficiency of accounting and auditing cadres in light of the Corona pandemic, with an arithmetic average (4.16), and a relative weight (83.11%).
4. There is a significant impact of the use of artificial intelligence on the development of accounting and auditing systems in light of the Corona pandemic, with an arithmetic average (4.19), and a relative weight (83.87%).
5. The use of artificial intelligence leads to the success of the tasks of accountants and auditors and the improvement of their professional performance in light of the Corona pandemic.
6. The use of artificial intelligence improves technical and organizational services that help in how to implement accounting and auditing work in light of the Corona pandemic.
7. Exploiting the capabilities of artificial intelligence to accelerate the completion of accounting and auditing processes, improve performance, and obtain a high competitive advantage in light of the Corona pandemic.
8. The use of artificial intelligence by practitioners of the accounting and auditing professions adequately helps in the continuity of completing work and not disrupting it in light of emergency conditions such as the spread of the Corona pandemic.
9. The use of artificial intelligence increases the efficiency of accountants and auditors by providing them with experiences and skills related to the practice of the profession of accounting and auditing.
10. The use of artificial intelligence requires that accountants and auditors be qualified and more effective to contribute to the design of accounting and auditing systems to meet the needs of professional work in light of the Corona pandemic.
11. The use of artificial intelligence helps to develop accounting systems and raise their efficiency in storing and retrieving information in light of the Corona pandemic.
12. The use of artificial intelligence contributes to providing electronic accounting and auditing reports that are highly accurate in preparation and results in light of the Corona pandemic.
13. The use of artificial intelligence contributes to enhancing the role of accounting systems to protect data from manipulation and fraud in light of the uncertainty associated with the Corona pandemic.

Recommendations: In light of the results of the statistical analysis, the researchers recommend the following:

1. The necessity for the accounting and auditing offices in the Gaza Strip to use artificial intelligence for the great course that it will undertake in improving the efficiency of the accounting and auditing process by providing the required results in a timely manner, especially in light of the Corona pandemic.
2. Work to encourage accounting and auditing offices in the Gaza Strip to use artificial intelligence to provide reliable, accurate and quality data on which to make decisions in light of the Corona pandemic.
3. Working on using artificial intelligence to increase the degree of confidence in prepared financial statements that are free from fundamental distortions and errors in light of the Corona pandemic.
4. The need for accounting and auditing offices in Gaza Strip to use artificial intelligence in the process of handling complex accounting and auditing processes to try to find solutions to them, especially in light of the Corona pandemic.
5. Working to adopt the application of artificial intelligence to increase the quality of the professional performance of practitioners of the accounting and auditing profession, increase confidence in the results of their work and enhance their advisory role in light of the Corona pandemic.
6. Helping accounting and auditing offices in the Gaza Strip to identify the advantages of using artificial intelligence because of its role in developing the mental capabilities and scientific and technical knowledge of accountants and auditors, which leads to raising their level of efficiency, especially in light of the Corona pandemic.
7. Working to adopt the application of artificial intelligence by accounting and auditing offices in the Gaza Strip because of its effective role in developing accounting systems to protect data from manipulation and fraud in light of the uncertainty associated with the Corona pandemic.
8. The necessity for accounting and auditing offices in the Gaza Strip to use artificial intelligence and its applications to effectively cope with deficiencies in the applied aspects when practicing the profession of accounting and auditing in light of the Corona pandemic.
9. The necessity for the Palestinian Accountants and Auditors Syndicate to hold training courses, workshops and seminars specialized in artificial intelligence for accountants, auditors, and accounting and auditing office owners.

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