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# THE ROLE OF ARTIFICIAL INTELLIGENCE TECHNIQUES IN SIMPLIFYING TAX ACCOUNTING PROCEDURES

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**Abstract:**
This research aims to simplify the work of intelligent technology to simplify the process of tax calculation in the tax administration as a company that provides many services to taxpayers. So that the administration is able to create new ideas to increase understanding and knowledge about how it takes care of taxpayers and strives to provide the right workplace, time, to create human relations and learning and learning, how that this is reflected in its tax efficiency to attract. new taxpayers and establish long-term relationships with them. To achieve this, the study is based on interviews as the main tool for collecting data and information for the analysis of its changes. The applied results showed a significant and positive impact of the intelligence technology in improving the tax accounting system, which is a good indicator of the impact of the intelligence technology in the performance of the General Tax Administration, the research sample.

**Keywords:** Artificial intelligence technology, tax records.

## INTRODUCTION

Artificial intelligence technology of our time is one of the main technologies that the world relies on today and is one of the main pillars of the business world as computers can now perform the collection and processing of data to arrive at decisions appropriate, as the technologies are in demand. to perform all tasks and activities that previously required the use of human skills, thus reducing the time and effort required to perform many of these tasks. English It should be understood that the increase in the amount of wealth and the expansion of the range of economic activities, because the economic sector has many activities, and in more than one country, so this is shown in the output of the chapter. challenges for tax authorities, both in terms of providing competent tax authorities to carry out their duties or continuing with the implementation of international accounting standards that contribute to the development of tax-minded countries and to advance the tax system. technological development, and thus react to the intelligence technology that relies on many algorithms to process and simplify complex information, since they have improved the process of predicting and calculating taxes the main and control of financial planning and the automatic payment of all taxes (through it. the collection of information and the submission of returns) because the technology of the Internet of things and the technology of intelligence have helped Artificial Intelligence change the traditional way of working for those who -Accounting brings a great change of accounting work through the ability to perform accounting analysis and operations quickly and efficiently, thereby improving the ability of accountants and increasing the level of their performance . It also

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helps a lot in preparing, storing, retrieving and analyzing data to overcome time and space constraints, thus helping in preparing tax returns effectively and efficiently.

## THE FIRST SECTION
## RESEARCH METHODOLOGY

### 1-1: - Research problem:

Artificial intelligence represents one of the most important fields in various areas of life, as it has developed rapidly and accounting is one of the important fields affected by the development of artificial intelligence, as these technologies have begun to affect the applied tax systems, and robots have appeared that have begun to do most of the work that humans do, which has been reflected in reducing the tax revenue that depends on income tax. In light of these challenges, the research problem can be formulated by asking the following question: (Does the application of artificial intelligence technologies affect the simplification of complex tax accounting procedures?).

### 1-2: - Research objectives:

The importance of the study can be reviewed as follows:
1. Identify artificial intelligence technologies.
2. Identify tax accounting procedures.
3. Explain the impact of artificial intelligence technologies in simplifying tax accounting procedures.
4. Study and analyze the role of artificial intelligence technologies in simplifying tax procedures.

### 1-3: - The importance of the research:

Research on artificial intelligence is of great importance, due to its spread and use in various economic sectors and its positive aspects in developing societies, as artificial intelligence has become used in the fields of education, health, industry, marketing and security, in addition to the use of robots that rely on artificial intelligence in various fields, whether industrial or other fields, and the importance of the study is highlighted by the impact of these technologies in simplifying tax procedures as a result of the development of electronic accounting systems, as technical development has included various fields of information technology.

### 1-4: - Research Hypothesis:

The first main hypothesis: There is a significant correlation between artificial intelligence techniques and tax accounting elements.
The second main hypothesis: There is a significant influence relationship between artificial intelligence techniques and tax accounting elements.

### 1-5: - Data collection methods:

**1. Spatial boundaries: -** The General Tax Authority in Iraq was chosen as the study community.
**2. Human boundaries: -** Represented by the officials in the Authority from senior and middle cadres (Director General and his assistants, department managers, branch managers).
**3. Temporal boundaries: -** The study extended in time from 1/1/2024 - 30/6/2024.
4. Research sample: - The random stratified sample was chosen from the cadres working in the General Tax Authority, numbering (32) individuals, which represents 91% of the total community of (35) individuals. Table (1) shows the distribution of the study sample members according to personal variables: -

**Table No. (1) Distribution of study sample individuals**

| Variable | Level | Frequency | Percentage |
|---|---|---|---|
| the age | Less than 30 years | 3 | 9% |
| | 30 to 40 years | 10 | 31% |
| | 40-50 years | 18 | 56% |
| | 50 years and above | 1 | 3% |
| Educational level | Preparatory | 2 | 6% |
| | Bachelor's | 16 | 50% |

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| | | | |
|---|---|---|---|
| | **Diploma** | **2** | **6%** |
| | **Higher Diploma** | **1** | **3%** |
| | **Chartered Accountant** | **2** | **6%** |
| | **Master's** | **7** | **22%** |
| | **PhD** | **2** | **2%** |
| **Number of years of experience** | **Less than 10 years** | **6** | **19%** |
| | **11 to 20 years** | **18** | **56%** |
| | **21-30 years** | **6** | **19%** |
| | **31 and over** | **2** | **6%** |

Table (1) shows the distribution percentages of the study sample members for the age variable, where the highest percentage (56%) was recorded for the category (40 to 50 years) with a frequency of (18), while the lowest participation percentage was recorded for the category (50 years and over) with a percentage of (3%) and a frequency of (1). As for the educational level, we note that (50%) is for the educational level (bachelor's), while the lowest percentage was recorded for the category (higher diploma) with a percentage of (3%). This result explains that the majority of the study sample have an academic level and hold a bachelor's degree. As for the number of years of experience, the highest percentage was for the category (11 to 20 years) with a percentage of (56%) and a frequency of (18), while the lowest level was for the category (31 years and over) with a percentage of (^%) and a frequency of (2).

**1-6: - Presentation of previous studies: -** The study **(Al-Jabri: 2023)** aimed to know the role of artificial intelligence technologies in digital marketing activity and to know the importance of these technologies in the field of digital marketing, and the most important conclusions reached by the study is that there is an agreement on the importance of using these technologies in the field of digital marketing through the use of targeted advertisements while browsing social networking sites, as for the study **(Rathi & et al: 2021:58)**, the study aimed to know the importance of the role of artificial intelligence in the tax system in the state of India and its importance in reducing tax evasion and increasing awareness among taxpayers for the purpose of adopting a tax system based on artificial intelligence, as for the most important conclusions reached by the study that a country like India, which is still in the development stage and needs some transformational changes in the tax system for the purpose of increasing tax revenues, and that the use of artificial intelligence will lead to enhancing the Indian tax administration process and transparency in the tax process and preventing tax fraud and tax evasion. The study **(Ali & et al: 2022)** aimed to identify the importance of the relationship between internal audit activity and artificial intelligence techniques. The most important conclusions reached by the study are that the use of artificial intelligence techniques will improve internal control activities. The study recommended the necessity of adopting the application of artificial intelligence techniques in internal control, which will lead to reducing the costs and time for continuous audit work in industrial units, especially during times of epidemics. The study **(Faúndez-Ugalde & Mellady-Silva: 2020)** aimed to clarify the rights of taxpayers to access the algorithms and formulas of artificial intelligence used by tax administrations in Latin American countries such as Brazil, Colombia, Argentina and Mexico, as artificial intelligence applications were used in tax audit procedures. The most important conclusions reached by the study are the necessity of defining the legal limits in protecting the rights of taxpayers, and the necessity for taxpayers to know the procedures followed in tax audit processes.

**1-7:Research Methodology:-** The descriptive analytical method was adopted in preparing this research, as this method depends on describing the phenomenon and expressing it (quantitatively and qualitatively).

**1-8:- Research Model:-** The research model was built based on the scale derived from the study (Rathi & et al: 2021) for the variable (artificial intelligence techniques), while the scales used in the study of each of (Baingana, 2011), and (Al-Amri, and Muajjal: 2016) were used to measure the variable of simplifying tax accounting procedures

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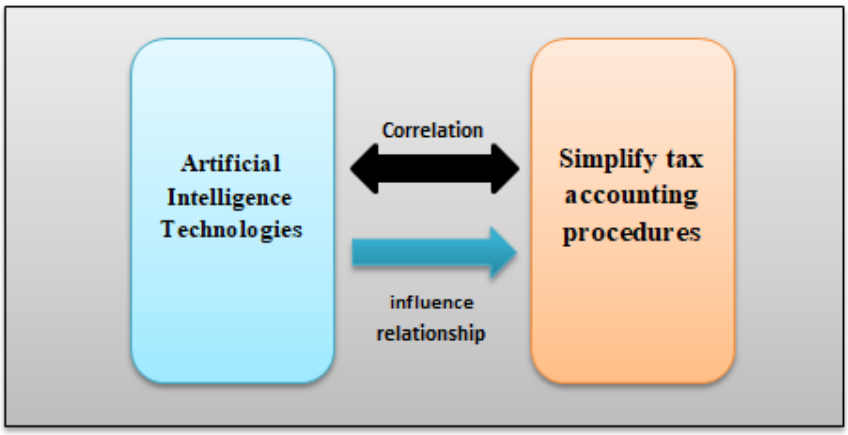
**Figure No. (1) Research model**




Source: Prepared by researchers

## THE SECOND TOPIC
## THEORETICAL FRAMEWORK

### 2-1: -The concept of artificial intelligence

There have been many developments in the communications and technology sector. These developments have led to the emergence of new concepts and technologies that were not previously known. One of these concepts is the emergence of artificial intelligence. Therefore, artificial intelligence can be defined as a science and engineering in making smart machines and the ability to learn and implement appropriate technologies to solve problems and achieve goals, in a manner consistent with the reality of the situation in a world characterized by continuous development and change (Monning, 2020: 1). Artificial intelligence has also been defined as the ability to repeatedly process data to solve problems optimally and use long-term visions to reach logical solutions (Hiott, 2023: 1). It has also been defined as a technology and science that relies on many other sciences and technologies such as computer science, biology, mathematics, engineering and philosophy, as all of these sciences are relied upon in using the computer to simulate human intelligence (Ayash, 2024: 6), or it is known as one of the branches of computer science that is concerned with studying computer programs and working to manufacture programs based on some forms of intelligence, as systems are developed that understand the nature of intelligence Human and thus enable it to provide useful solutions for various areas of life by relying on computer models (Anbar and Muhammad, 2016: 43), it is a science that aims to rely on intelligent systems that simulate the known characteristics of human intelligence (Khalaf, 2017: 626), and from the above, the researchers see that artificial intelligence is a modern technology that relies on many programs that enable it to make the optimal decision based on studying all possibilities and thus making the appropriate decision, as artificial intelligence has become relied upon in various areas of life such as medicine, engineering and all social sciences, including accounting.

### 2-2: - The historical development of the concept of artificial intelligence

There have been many developments in various areas of life and in various fields of science, and thus this was reflected in the increased interest in developing systems that simulate human intelligence, as the focus became on translating and transferring human experience and intelligence to computer programs (Muqatil and Hassani, 2021: 111), so the historical development of the concept of artificial intelligence went through several stages. In the middle of the twentieth century in 1956, the first to use the term artificial intelligence appeared, John McCarthy, who held a workshop for researchers interested in establishing a simple model of an artificial neural network somewhat similar to the neurons in the human brain, as this workshop contributed to building the foundation for the development of artificial intelligence research (Illuminations, 2021: 4), as for the second stage of development, it began in the mid-sixties, when the scientist Winston developed research that produced this research on the appearance of the robot, and in the mid-seventies, new and different technologies emerged that were characterized by transferring human intelligence to computer applications, as this period became known as the golden age because it led to The

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emergence of modern artificial intelligence systems, and the development in the field of the concept of artificial intelligence has continued to include various areas of life, as it has become used in the medical field to diagnose disease cases and prescribe appropriate medication, and in the military, engineering, educational, economic and all areas of life (Nouri, Yahya, 2019: 4-5). The computer is currently used to perform the tasks and work of humans in routine work (Majdi, 2020: 6), and developments have increased significantly in recent years to include the medical field, as a group of applications have been able to discover many types of cancer, and thus artificial intelligence has outperformed human doctors (Lou, Wu, 2019: 1).

### 2-3:- Artificial Intelligence Technologies

Artificial intelligence technologies are important technologies that serve most sectors and activities in various areas of life. They are programs that simulate human intelligence and work to make optimal decisions based on analyzing the data provided to them. Some artificial intelligence technologies can be reviewed as follows:

1. Big data analysis: It is a technology commonly used by economic units in order to obtain valuable information, as a large amount of data is collected using different technologies and this data is unified and examined and then the results are extracted for the purpose of making appropriate decisions (Al-Ashi and Badi, 2021: 6)

2. Expert systems: These are programs that are prepared for the purpose of performing the work of an expert in any specific field such as chemistry, medicine and any other science. Expert systems consist of a set of facts related to a specific field in the form of a specific base and also include a research base that handles how to use those facts, as the design of expert systems is called knowledge engineering (Fouad, 2023: 1953-1954). 3. Intelligent systems: It is one of the most advanced and sophisticated artificial intelligence systems, as it simulates the human mind, as humans create and program it and give it the advantage of intelligence by providing it with all the data it needs, and thus it can acquire intelligence from databases and takes several forms, including neural networks, algorithms and hybrid systems (Awadin, 2022: 17-18).

4. Deep learning (DL): - It is a set of processes and algorithms that enable computers to automatically discover complex patterns in a set of large data, and deep learning has become widely used in image processing in the medical field and disease diagnosis, as it relies on high-resolution image analysis standards and disease diagnosis based on artificial intelligence techniques (Nia & et al., 2023: 4).

### 2-4: - Tax accounting:

Tax legislation varies in defining the concept of tax accounting, and the matter has gone beyond those interested in tax affairs, as most tax sources indicate that tax accounting is part of the duties of the tax administration in determining the tasks (limiting taxpayers, estimating and collecting the tax), as (Zango, 2008, 8) defined tax accounting as "one of the elements of the tax system, concerned with determining the taxpayer's tax obligations and estimating and collecting the tax amounts" and is defined as "a set of administrative, legal and accounting procedures by which the amount of tax due from the taxpayer is determined" (Muhammad, 2023: 363) as (Al-Kharsan) defined it as "one of the components of the tax system that specializes in implementing the provisions of tax legislation that include tax policy and seeking to embody it in the reality of social and economic life." (Al-Kharsan, 2020: 99).

### 2-4-1: - Elements of tax accounting:

Opinions differed in determining the dimensions of tax accounting, as some defined it as four elements, Another group determined it at five, more or less, while (Dawit, 2014: 27) and (Darison, 2011: 12) agreed that tax accounting is represented by three elements: (enumeration, estimation, and tax collection): 2-4-1-1: Tax enumeration: It is the process of determining the tax community (names of taxpayers, types of activities they practice, their taxable income, their addresses and their list of locations), with the necessity of updating taxpayers' data continuously when any change occurs, as this step is one of the basic foundations of the tax accounting system, and the first stage on which the accounting process procedures are built. It is necessary to focus on enumerating and registering new taxpayers, and this justifies the urgent need to prepare an effective enumeration system through which the community is enumerated taxably, because the taxes collected due represent a modest number compared to what can be collected in real revenues (Lumenyela, 2014: 13).

**2-4-1-2: - Tax estimation:** It is the process of calculating the expected amount of income tax based on available information and applicable tax laws, and is used to estimate the amount that a person or company must pay as tax before the official submission of the final tax return. Tax estimation depends on multiple sources of information, which are (Al-Kharsan, 2020: 111): -

1. Revenues: The income of an individual or company is estimated from various sources, such as salaries, businesses, investments, real estate, and others. Financial records, invoices, and other data are used to determine financial amounts.

2. Expenses: Expenses eligible for tax deduction are estimated, such as business operating costs, charitable donations, loan interest, and others. Taxpayers must

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keep records and documents proving the expenses paid. (Lumenyela, 2014: 17)
3. Exemptions and exceptions: The tax is calculated based on the exemptions and exceptions in force in the tax system. These exemptions and exceptions vary from one country to another and may change over time.
4. Adjustments: Potential tax adjustments, such as losses carried forward from prior years that can be used to adjust the tax due, are estimated.
After gathering information from the above sources, the appropriate tax forms and applicable tax laws are used to determine the expected amount of tax. Individuals and businesses should check legal requirements and consult with an accountant or tax expert to ensure correct tax estimation and compliance with applicable tax legislation.

**2-4-1-3: Tax collection:-** It is the process of collecting tax amounts due from taxpayers for the purpose of securing the necessary revenues to cover the state's public expenditures, as these revenues represent one of the most important sources of government funding. The important aspect of the tax accounting process is the revenue collection procedures, and the effectiveness of these procedures can be measured by determining the number of taxpayers who have not paid their taxes due to the weakness of the tax administration procedures, and tax evasion that the taxpayer may resort to when he feels wronged and tax justice is not achieved. Because of these actions, the percentage of revenue collection may decrease, especially in developing countries, and the subjects that depend on oil as a primary resource in financing the state's general budget (Al-Amiri, Muajjal: 2016: 6-7). According to the International Monetary Fund, the process of collecting taxes is the primary function of the government, and the weakness of tax administration may harm development and growth, as it requires these administrations to carry out reforms, update procedures, and raise service efficiency and transparency (Kamijo, 2014: 3).

**2-5:The role of applying artificial intelligence technologies in tax accounting procedures: -**

There are many modern applications in the field of tax accounting, most of which focus on automating the tax payment process, based on specific algorithms and machine learning technology, which is one of the artificial intelligence technologies and will therefore lead to further development in the field of simplifying tax procedures. The process of automating all areas of accounting has allowed improvements in tax collection methods through artificial intelligence technology, as the introduction of smart technology contributes to motivating taxpayers to pay taxes better and faster, thus providing business transparency and interaction between organizations and tax services (Zhurenkov, et al, 2021: 196). Artificial intelligence technologies have the ability to transform the accounting profession from manual to electronic form, and according to reports issued by the Association of International Certified Public Accountants, automation will relieve workers of many cumbersome processes such as bookkeeping and transaction coding, enabling accountants to focus on advisory services and other higher-value work. As a result, the future will provide smart applications that enhance value for accountants and their clients ( Bayu, 2021: 9), and it is worth noting that one of the advantages of development in the field of artificial intelligence is the emergence of robots and automation, and thus they have become a substitute for human workers, as this has been reflected in reducing tax revenues from labor-based taxes, so taxes must be imposed on the use of robots themselves (Kovacev, 2020: 23). Researchers believe that the emergence of artificial intelligence technologies is a result of the rapid development in economic activities, science and technology. The era of artificial intelligence has come, which has had a major impact on all aspects of life, and accounting is one of the sciences affected by this development, as it has become dependent on these technologies in the field of accounting work in general and in particular in the field of simplifying tax procedures, as it has become dependent on these applications in various countries of the world for the purpose of encouraging taxpayers to pay taxes by granting them privileges as a result of compliance with paying the tax, and these applications work to analyze the income of taxpayers and perform tax auditing and tax calculation in an optimal manner.

## Section Three
## Practical Aspect

**3-1: Descriptive Statistics:** This aspect aims to present the results of a field study conducted by the researchers with the aim of drawing a general picture or framework for the sample members' preferences for the study variables and their general trends. The study tool (questionnaire) was developed after reviewing previous related studies. The tool consisted of two sections: the first (artificial intelligence techniques), while the second section included (tax accounting procedures) with (10 statements) for each axis and through preparing a questionnaire that was designed electronically with (32) questionnaires. To verify the stability of the study tool, Cronbach's Alpha Equation was used to measure the stability level of the study axes. From Table (2), it is clear that the stability coefficient of the study tool was recorded (0.74, 0.87, 0.89). These values reflect that the study tool enjoys acceptable stability for the purposes of conducting this study.

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**Table (2) Stability coefficients of the study tool**

| Sequence | Axes | Cronbach's |
|---|---|---|
| **1** | **AI Technologies** | **0.74** |
| **2** | **Tax Accounting Procedures** | **0.87** |
| **3** | **Overall Stability Score** | **0.89** |

**A- The first axis (artificial intelligence techniques): Table (3) shows the descriptive indicators of the study sample's answers.**

**Table (3) Average analysis for (artificial intelligence techniques)**

| Q | Phrases | Arithmetic mean | Standard deviation | Coefficient of variation % |
|---|---|---|---|---|
| 1 | Artificial intelligence techniques are one of the important techniques used in solving various problems. | 4.097 | 0.74 | 18.06% |
| 2 | Artificial intelligence technologies closely mimic human intelligence. | 3.774 | 0.948 | 25.12% |
| 3 | Developments in artificial intelligence technologies have facilitated accounting operations in general. | 4.032 | 0.746 | 18.50% |
| 4 | Tax data analysis is one of the important artificial intelligence techniques in decision-making processes. | 4.194 | 0.698 | 16.64% |
| 5 | Expert systems represent one of the important dimensions of artificial intelligence technologies in simplifying tax procedures. | 3.968 | 0.868 | 21.88% |
| 6 | Expert systems rely on many algorithms to solve tax procedure problems. | 3.839 | 0.814 | 21.20% |
| 7 | Modern artificial intelligence techniques are relied upon in the field of tax accounting. | 3.903 | 0.863 | 22.11% |
| 8 | Moving towards automating tax processes based on artificial intelligence technologies. | 3.806 | 0.786 | 20.65% |
| 9 | The use of modern technologies in the tax field will encourage taxpayers to pay tax. | 4.226 | 0.756 | 17.89% |
| 10 | Adopting the application of artificial intelligence technologies in the tax field will increase tax transparency. | 4.161 | 0.682 | 16.39% |
| **The first axis** | | **4.666** | **0.485** | **12.11%** |

1- Table (3) shows the total score of the estimates of the phrases of artificial intelligence techniques in the tax field, as it was high with an arithmetic mean (4.006) and a standard deviation (0.485) and a coefficient of variation (12.11%). This result indicates the importance of artificial intelligence techniques in changing the traditional work methods of accountants and bringing about a radical transformation in the accounting function through the ability to carry out accurate analysis and accounting operations quickly and efficiently. 2- The phrase including (Encouraging employees with incentives and material and moral rewards to increase employee satisfaction and help in implementing international

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financial reporting standards) achieved the highest homogeneity rate in the level of agreement with a coefficient of variation (16.39%) and an arithmetic mean of (4.161) and a standard deviation between the answers (0.682) which reflects the amount of dispersion in the answers of the sample members and the important role in the importance of applying artificial intelligence techniques in the tax field will increase tax transparency. 3- The phrase including (Artificial intelligence techniques greatly simulate human intelligence) achieved the lowest homogeneity rate in the level of agreement, with a coefficient of variation (25.12%) and an arithmetic mean of (3.774) and a standard deviation between the answers (0.948) which reflects the amount of dispersion in simulating artificial intelligence techniques with human intelligence to a large extent).

**B- The second axis (tax accounting elements): Table (4) shows the descriptive indicators of the study sample's answers**.

**Table (4) Analysis of averages for (tax accounting elements)**

| Q | Phrases | Arithmetic mean | Standard deviation | Coefficient of variation % |
|---|---|---|---|---|
| 1 | Tax accounting is one of the duties of the tax administration. | 3.936 | 0.624 | 15.85% |
| 2 | Tax assessment, estimation and collection are among the most important pillars of tax accounting. | 3.774 | 0.711 | 18.84% |
| 3 | Artificial intelligence techniques can be used in the calculation of taxable income. | 3.871 | 0.713 | 18.42% |
| 4 | Registered taxpayers in various economic sectors are constantly identified. | 3.839 | 0.772 | 20.11% |
| 5 | The process of examining the financial statements and accounting records of taxpayers is one of the foundations relied upon when calculating taxes. | 3.839 | 0.729 | 18.99% |
| 6 | The Authority's branches enable those responsible to access them easily for the purpose of registration. | 3.871 | 0.877 | 22.66% |
| 7 | The use of artificial intelligence techniques will calculate the tax accurately. | 3.968 | 0.746 | 18.80% |
| 8 | The Tax Administration relies on efficient electronic systems to implement the tax collection process. | 4.097 | 0.74 | 18.06% |
| 9 | The use of artificial intelligence technologies will facilitate the process of automating tax calculation. | 4.092 | 0.627 | 15.32% |
| 10 | The use of artificial intelligence technologies will reduce the cumbersome processes of using paper records for tax accounting procedures. | 3.968 | 0.701 | 17.67% |
| **The second axis** | | **3.925** | **0.497** | **12.20%** |

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1- Table (4) shows the total score of the tax accounting elements' statements, which was high with an arithmetic mean (3.925), a standard deviation (0.479), and a coefficient of variation (12.20%). This result indicates the importance of tax collection methods through artificial intelligence technology, as the introduction of smart technology contributes to motivating taxpayers to pay taxes better and faster.
2- The statement that includes (The use of artificial intelligence technologies will facilitate the process of automating tax calculation) achieved the highest homogeneity rate in the level of agreement with a coefficient of variation (15.32%) and an arithmetic mean of (4.092) and a standard deviation between the answers (0.627), which reflects the amount of dispersion in the answers of the sample members and the important role in using artificial intelligence technologies that will facilitate the process of automating tax calculation. 3- The phrase including (the branches of the Authority enable those charged with it to reach it easily for the purpose of registration) achieved the lowest rate of homogeneity in the level of agreement with a coefficient of variation (22.66%) and an arithmetic mean of (3.871) and a standard deviation between the answers (0.877) which reflects the amount of dispersion in the importance of the branches of the Authority enabling those charged with it to reach it easily for the purpose of registration). Second: Testing the hypotheses of the relationship between the study variables**: -**

**Table (5) Results of testing the hypotheses of the relationship between the study variables**

| Model | **sum of squares** | **df** | **Mean squares** | **R** | **$R^2$** | **F** | **Sig** |
|---|---|---|---|---|---|---|---|
| Regression | 4.837 | 1 | 4.837 | **0.795 | 0.632 | 51.512 | 0.000 |
| Residual | 2.817 | 30 | 0.094 | | | | |
| Total | 7.655 | 31 | - | | | | |
| | | | | | | | |
| Model | $\beta$ | **standard error** | Beta | | | **T** | **Sig** |
| Fixed | *0.846* | 0.315 | - | | | 2.689 | 0.000 |
| Artificial Intelligence Technologies | *0.803* | 0.080 | 0.795 | | | 10.09 | 0.000 |

**Tabular T value at a significance level of (1%) = 1.984 / Tabular F value at a significance level of (1%) = 3.93 // Significance of the correlation coefficient at the (1%) level.**

1- The results of the study in Table (5) indicate the existence of a strong correlation between the variable (the impact of artificial intelligence techniques) and the variable (tax accounting elements) at a significance level of (1%), as the value of the correlation coefficient was (0.795), and this result provides sufficient support for the significance of the correlation between the two research variables. In other words, we accept the hypothesis "There is a significant relationship between artificial intelligence techniques and tax accounting procedures."
2- The value of (F) recorded a value of (51.512), which indicates the significance of the model in prediction, as it showed that artificial intelligence techniques have an impact on the elements of tax accounting, as this impact forms a linear regression model in terms of the explanatory and influential ability on the elements of tax accounting. The value of the direct impact coefficient for this model reached (0.846), which is statistically significant at the significance level (1%).
3- The coefficient of determination for the linear regression model recorded (0.632), which means that the independent variable (artificial intelligence techniques) can explain the changes that occur in the dependent variable (tax accounting elements) by an amount of (63.2%), and this percentage indicates the existence of an impact relationship at the 1% level, and the (T) test recorded an amount of (9.256) at the level of (1%) is greater than its tabular value (1.984), and explains the significance of the direct impact on the elements of tax accounting. This result indicates that whenever there is reliance on artificial intelligence techniques, it will contribute in turn to facilitating accounting operations in general, which is reflected in simplifying tax accounting procedures.
4- Referring to the significance of the direct impact parameter and the determination coefficient parameter, we accept the second sub-hypothesis included (there is a significant impact of artificial intelligence techniques in simplifying tax accounting procedures).

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## SECTION FOUR
## CONCLUSIONS AND RECOMMENDATIONS

### 4-1: Conclusions:

1. The results indicated the significance of the paragraphs of artificial intelligence techniques, as all arithmetic averages were greater than the average degree (3), which reflects that artificial intelligence techniques in the tax field will contribute to increasing tax transparency and encourage taxpayers to pay taxes.
2. The results showed a difference in the expressions (tax accounting elements) as they recorded an arithmetic mean greater than the average acceptance score (3), which indicates the importance of using artificial intelligence techniques in the processes of calculating taxable revenues, which in turn will facilitate the process of automating tax calculation.
3. The variable (the impact of artificial intelligence techniques) was able to explain (63.2%) of the total changes that occur in (tax accounting elements), and this percentage is attributed to the fact that artificial intelligence techniques have the ability to revolutionize the elements of tax accounting in terms of flexibility, fairness, and reducing human intervention.
4. Artificial intelligence techniques can help improve the accuracy and organization of the tax accounting process by analyzing tax data and financial information automatically, and smart systems can avoid human errors and achieve a higher level of accuracy in calculating taxes.
5. The use of artificial intelligence technologies reduces the time and effort required for tax accounting procedures, and enables smart systems to process tax data quickly and efficiently, which reduces the need for repetitive manual work and allows accountants to focus their efforts on tasks with higher added value.

### 4-2: Recommendations: -

1. The necessity of introducing artificial intelligence technologies into the work of the General Tax Authority as they will contribute to improving tax transparency and tax accounting procedures, and will thus reflect on the behavior of taxpayers and their compliance with paying taxes.
2. The adoption of artificial intelligence technologies in accounting operations in general and tax operations in particular works to revolutionize the world of technology and reduce human intervention, which reduces cases of administrative and financial corruption.
3. Directing the General Tax Authority to benefit from artificial intelligence technologies as they work to improve the quality of financial data used in the tax accounting process as they reduce the time and effort expended, and reduce the need for traditional tax accounting operations.

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