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Obstacles to the Application of Artificial Intelligence in Palestinian Income Tax Departments

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Dedication

I dedicate this scientific license to everyone who stood by me and supported me, especially my mother, who planted in us a love of knowledge, to my father, Professor Tareq Al-Haj, who instilled in our hearts the love of science, to my sisters, Aya and Shayma, who were always helpful and supportive, and to my brother Muhammad who always supported me.

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الإقرار

أنا الموقعة أدناه مقدمة الرسالة التي تحمل العنوان:

Obstacles to the Application of Artificial Intelligence in Palestinian Income Tax Departments

أقر بأن ما اشتملت عليه هذه الرسالة إنما هي نتاج جهدي الخاص، باستثناء ما تمت الإشارة إليه حيثما ورد، وأن هذه الرسالة ككل، أو أي جزء منها لم يقدم من قبل لنيل أية درجة علمية أو بحث علمي أو بحثي لدى أية مؤسسة تعليمية أو بحثية أخرى.

Declaration

The work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

Student's name:	اسم الطالب: غزل طارق عبد الله الاغا
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Date:	التاريخ: 29.11.2021

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Abstract

This study aimed to identify the obstacles to the application of artificial intelligence in the Palestinian income tax departments, which are administrative obstacles, technical obstacles, human obstacles and financial obstacles, and the mechanisms for overcoming these obstacles.

To achieve this goal, the researcher used, in addition to primary sources, the questionnaire as a tool for collecting information, which, along with demographic variables, formed four areas (the administrative field, the technical field, the human field and the financial field), so that each field contained a set of questions, in order to answer the questions and hypotheses of the study.

The questionnaire was distributed to the study population of 115 employees in the Palestinian income tax departments in the West Bank.

The data were statistically analyzed using the SPSS, using the statistical treatments represented in frequencies, percentages, arithmetic averages, standard deviations to estimate the relative weight of the resolution items and One Way ANOVA in testing hypotheses related to all variables and the Cronbach Alpha equation to calculate the stability of the resolution.

Among the most important results that have been reached is that the application of artificial intelligence in the Palestinian income tax

departments is caused by financial, human, technical and administrative obstacles, respectively, and the most important financial obstacle is the weak budget allocated to modernizing and developing electronic devices and programs, and the most important human obstacle is the lack of knowledge of technology Electronic management and the most important technical obstacle represented in the failure to take into account the design of offices and halls equipped in the Palestinian income tax departments to match the techniques of electronic management, and the most important administrative obstacle represented in the fact that the existing organizational structures do not comply with the requirements of electronic management. In light of this, one of the most important recommendations of the researcher is to allocate sufficient funds to purchase modern devices and techniques that help in the application of electronic management, and to hold specialized courses in the field of artificial intelligence to qualify employees in conjunction with holding programs for strengthening in the English language and the need to prepare infrastructure for advanced programming uses with the availability of spaces Offices that facilitate this and the need to restructure the Palestinian income tax departments in line with technical developments and workload

Chapter One

Introductory

Chapter One

Introductory

1.1 Introduction

Artificial intelligence (AI) is a modern theme of the modern industrial revolution. It includes computational actions and digital transactions by humans that require a high degree of knowledge and intelligence (Russell & Norvig 2009, p. 2). Artificial intelligence is not only used in the private sector but is also used in government work, but the scope and scope of use varies from sector to sector and from State to State, for a combination of financial, human, technical and organizational impediments.

Artificial intelligence is also used in deliberate areas including expert systems, voice recognition, image analysis, stock trading, automated control, scientific discoveries and Internet search engines. (Smith, Mark 2016).

It can also be used in different government services, including income tax services, which in many countries of the world have introduced electronic rather than manual labour to achieve a set of basic rules of taxation, including the rule of economy.

The use of artificial intelligence also makes it easier for staff to work and saves time and effort so that most States seek to move from the traditional to the electronic system. Artificial intelligence also makes it easier for taxpayers with mobility and waiting in income tax departments and the retention of paper files that may be damaged and lost, because the time,

cost and effort factor is calculated by the taxpayers.

Despite the tremendous development in Artificial Intelligence tools and the continuous improvements in income tax laws in the countries of the world, some countries, especially developing ones, still use paper work in their transactions, and this is applies in the Palestinian case, despite the use of advanced means and programs in the Palestinian income tax circles, but it is still alienated from the use of artificial intelligence, which we're going to take into account in detail in this study.

1.2 Problem Statement

In light of the great progress in the use of modern technologies and their applications, artificial intelligence has become a necessity even in government work because of its positive results in raising the efficiency of workers and accuracy in dealing with citizens, and this can only be achieved if we overcome the obstacles that stand in the way of its application, the main problem facing, for example, the tax departments in Palestine do not know these obstacles to avoid them, which facilitates collection and helps to save the information and data of the taxpayers and quickly recover them when needed, from here the problem of the study revolves around the following main question:

What are the obstacles to the application of artificial intelligence in Palestinian income tax services?

It includes the following questions:

1. What are the human constraints facing the application of artificial intelligence in Palestinian income tax services?
2. What are the financial constraints facing the application of artificial intelligence in Palestinian income tax services?
3. What are the technical constraints facing the application of artificial intelligence in Palestinian income tax services?
4. What are the regulatory constraints facing the application of artificial intelligence in Palestinian income tax services?

What are the differences between the constraints of applying artificial intelligence in the Palestinian income tax services due to a variable (scientific qualification, specialization, job title, years of experience and training courses in the field of Artificial Intelligence)?

1.3 Significance of the study

The importance of the study stems from the importance of the topic that addresses it, as the development in the field of technology put government institutions, including income tax departments, facing challenges to keep pace with this development and technical progress, it is important to study the obstacles that prevent the application of artificial intelligence in the Palestinian income tax services. So, the importance of this study lies in:

1. Theoretical importance:

It is to address the cognitive aspect of the obstacles facing the application of artificial intelligence in the work of the Palestinian income tax services,

which contributes to understanding the problem and identifying its dimensions and trying to fill some of the shortage in the use of artificial intelligence in the Palestinian income tax services.

2. Applied importance:

It is to identify the obstacles to the application of artificial intelligence in the Palestinian income tax services through the results of the study, which can help decision makers to reduce the difficulties that prevent the application of artificial intelligence.

1.4 Purpose Statement

This study aims to:

1. Knowledge the paragraphs of human obstacles facing the application of artificial intelligence in the Palestinian income tax services.
2. Knowledge the paragraphs of financial obstacles facing the application of artificial intelligence in the Palestinian income tax services.
3. Knowledge the paragraphs of technical obstacles facing the application of artificial intelligence in the Palestinian income tax services.
4. Knowledge the paragraphs of regulatory obstacles facing the application of artificial intelligence in the Palestinian income tax services.
5. Identify the most important obstacles in the application of artificial intelligence in Palestinian income tax services by (scientific qualification, specialization, job title, years of experience and training courses in the field of Artificial Intelligence).

1.5 Hypotheses

The following hypotheses will be addressed in this study The main hypothesis:

There is no effect of human, financial, technical and regulatory constraints on the application of artificial intelligence in the Palestinian income tax services.

From there are the following sub-hypotheses emerge:

H01: There is no effect of human constraints on the application of artificial intelligence in Palestinian income tax services.

H02: There is no effect of financial constraints on the application of artificial intelligence in Palestinian income tax services.

H03: There is no effect of technical constraints on the application of artificial intelligence in Palestinian income tax services.

H04: There is no effect of regulatory constraints on the application of artificial intelligence in Palestinian income tax services.

H05: There is no effect of human, financial, technical and regulatory constraints on the application of artificial intelligence in the Palestinian income tax services due to a variable (scientific qualification, specialization, job title, years of experience and training courses in the field of Artificial Intelligence).

1.6 Study Variables

Dependent variable:

Human constraints, financial constraints, technical constraints and regulatory constraints.

Human constraints

It boils down to:

Lack of sufficient knowledge of electronic management techniques, shortage of staff specialized in the operation and maintenance of computers, poor English skills among some employees, the scarcity of training courses in the fields of electronic management, poor preparation and training of employees to use electronic technologies and lack of specialized cadres in electronic management of income tax departments.

Financial constraints

It boils down to:

Lack of financial resources to implement electronic management, high prices of electronic software, weak budgets for the purchase of information protection systems, insufficient budget for the design and development of computer software and applications and twice the budget allocated by the Income Tax Department departments to modernize and develop equipment and technologies.

Technical constraints

It boils down to:

Poor level of infrastructure for the application of electronic management, lack of accurate and integrated databases, the lack of computers available in Palestinian income tax departments, poor maintenance and follow-up of devices, the speed of development of computers and their systems, failure to take into account the design of offices and rooms equipped in income tax circles to suit electronic management techniques, poor internet service in income tax circles, the speed of change in information technology and the difficulty of keeping up with it, lack of a precise and integrated database, rare availability of new and regular Arabic-language software suitable for administrative work in income tax departments and the difficulty of arabizing foreign regimes and branding.

Regulatory constraints

It boils down to:

Lack of proper planning and clear objectives for the transition to e-management, severe centralization in income tax departments, the ambiguity of the future vision of the application of electronic management, routine procedures delay the transition to electronic management, current regulatory structures do not comply with e-management applications, weak management structure adjustment to suit the transition to electronic management and the current job description of jobs in income tax departments is not suitable for the application of e-management.

Independent variable:

Application of artificial intelligence

Artificial intelligence (AI) is a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence. AI is an interdisciplinary science with multiple approaches, but advancements in machine learning and deep learning are creating a paradigm shift in virtually every sector of the tech industry.

A set of questions will be formulated for each of the independent variables to identify the most important of these obstacles to the use of artificial intelligence in Palestinian income circles.

Intervening variables:

Scientific qualification, specialization, job title, years of experience and training courses in the field of Artificial Intelligence.

1.7 Study Model

Table No (1) shows the dependent variable, independent variable and Intervening variables related to this study

Dependent variable	Intervening variables	Independent variable
Human constraints	Scientific qualification	Application of AI
Financial constraints	Specialization	
Technical constraints	Job Title	
Regulatory constraint	Years of experience	
	Training courses in AI	

1.8 Research methodology

In order to achieve the objectives of the study, the researcher will follow two approaches:

The first method: the descriptive analytical approach and the treatment of the theoretical framework through the collection and information from the answering and scientific references related to the subject of study, reports, research and websites.

The second approach is the analytical approach by collecting data from the study sample with the aim of understanding and analyzing the constraints of applying artificial intelligence in Palestinian income tax services.

1.9 Community and sample study

The study community will be composed of Palestinian income tax service workers in the West Bank and a random sample will be selected for the searched information.

1.10 Limitation of the study

1- Spatial limits: Income tax services in the West Bank.
2- Demography limits: Workers in Palestinian income tax services in the West Bank.

3- Time limits: 2020-2021.

1.11 Study terminology

Artificial Intelligence:

Artificial intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their

actions. The term may also be applied to any machine that exhibits traits associated with a human mind such as learning and problem-solving. (Franken field, 2021)

Income Tax:

The term income tax refers to a type of tax that governments impose on income generated by businesses and individuals within their jurisdiction. By law, taxpayers must file an income tax return annually to determine their tax obligations. (Kagan, 2020).

1.12 Study tool and Data sources

Study tool:

In order to achieve the objectives of the study and test the hypotheses, the study tool consisted of the questionnaire consisting of 4 areas: the first area related to human constraints, the second area related to financial constraints, the third area related to technical constraints and the fourth area related to regulatory constraints.

Data sources:

Primary sources: it consists questionnaire.

Secondary sources: it consists of Arabic and foreign books, researches, articles, websites and previous Arab and foreign studies that speak directly or indirectly about the subject of the study.

Chapter Two

Literatures Review

Chapter Two

Literatures Review

2.1 Theoretical background

This chapter will present the theoretical background and review of the previous studies.

2.1.1 The emergence and development of artificial intelligence

Artificial intelligence (AI) is the product of 2,000 years of philosophy traditions, theories of perception and learning and 400 years of mathematics that led to the possession of theories in logic, probability and computing, this is a long history in the development of psychology and what revealed the capabilities and modus operandi of the human brain, in addition to the fact that artificial intelligence is the result of strenuous efforts in linguistics that revealed the composition and meanings of language and the development of computer science and its applications, which made artificial intelligence a reality aware. (Yassin, 2011, P.19)

Artificial intelligence at its philosophical roots is due to the Greek philosopher, Plato, Socrates, Aristole and the French philosopher Francis Bacon and Bertrand Russell, who gave what's known as Positivism Logical. It also returns its roots to mathematics through three areas: computation, logic, probability and algebra founded by the Arab scientist Algorithm. (Yassin. 2011, P.19)

And in 1956, a conference was held at the University of Dartmouth, at this conference, John Mccarthy suggested using the term Artificial Intelligence (AI)to describe computers with the ability to perform the functions of the human mind. AI systems include all individuals, procedures and physical parts of the computer, software and data and knowledge required to develop automated computer systems and equipment that demonstrate the characteristics of intelligence. (Alawzi, 2012, P,20)

There was an urgent need for distribution in artificial intelligence. In 1973, the first artificial intelligence system emerged.

It's about the Hearsay system to get to know the words. (Labidi et lejouad, 2006, P.02)

2.1.1 The concept of artificial intelligence

Artificial intelligence consists of two words: intelligence and artificial word, each of which has meaning, intelligence according to Webster's dictionary is the ability to understand new and changing circumstances or situations. That is, the ability to perceive, understand and learn about new circumstances, in other words, the keys to intelligence are perception, understanding, and learning. The word industrial or artificial is already associated with manufacture, and therefore the word is called all things that arise as a result of the activity or action that is done through the artificialization and formation of things to distinguish from the things that already exist and are generated naturally without the intervention of the human being.

On this basis, artificial intelligence generally means the intelligence that

man makes in a machine or computer, the intelligence that comes from man in the first place and then gives it to the machine or to the computer. Artificial intelligence is therefore a science known on the basis of its goal of making machines do things that need intelligence. (Yassin, 2012, p.114)

Artificial intelligence is one of the modern computer sciences that seeks sophisticated methods to carry out similar works and conclusions, even within narrow limits, those reasons attributed to human intelligence. (Abd Al-Majid, 2009, p.11)and Its purpose is to rebuild using artificial means - computers - thinking and smart procedures. (Lauriere, 1987, p.02)

Robert's small dictionary also defines artificial intelligence as: 'Part of computer science, which aims to simulate a cognitive ability to replace man in performing appropriate functions, in a particular context, is intelligent. (Belhmo and Arzi, 2017, p.66)

Artificial intelligence is considered that science that is interested in making intelligent machines that behave as expected from the human being to act,

Artificial intelligence addresses the following areas:

1. Natural Language Processing
2. Robotic s
3. Speech Understanding
4. Neural Network
5. Expert Systems

Some researchers and specialists have known artificial intelligence

according to his point of view, where they differed in his definition for the simple reason that the definition of human intelligence itself is characterized by a lot of inaccuracies, so it is not surprising that there is a disagreement on what is artificial intelligence, and one of the most important definitions provided in this regard is: (Khawald and Thaligia, 2012. P.10)

“Automating human thinking-related activities such as decision-making, problem solving, learning, ... etc.” (Bellman, 1978)

“The art of inventing machines that can achieve processes that require human intelligent.” (Chariak and Mc Dermott, 1885)

“Study computers that make perception, thinking, and behavior possible.” (Winston, 1992)

“Study how to make computers do better human work.” (Rich and Knight, 1991)

“Computer Science Branch interested in automating human behavior.” (Luger and Stubblefield, 1993)

As Dan. W. Patterson define it “It is a type of computer science branch that is interested in studying and forming computer systems that show some forms of intelligence, and these systems have the ability to draw very useful conclusions about the problem developed, and these systems can understand natural languages or understand living perception and other possibilities that need intelligence when implemented by human.” (Sheikh, 2018, P.82)

Minsky defines artificial intelligence as: “Science that enables machines to perform things that require intelligence if they are implemented by human”.

Kurzweil, the most famous researcher in the field of artificial intelligence, defines artificial intelligence as: “The art of manufacturing machines capable of carrying out processes that require intelligence when done by humans”. (Alfadli, 2018, P.147)

In general, artificial intelligence can be defined as: “The set of efforts to develop computerized information systems in a way that they can behave and think in a similar way to humans, these systems can learn natural languages, accomplish actual tasks in integrated coordination, or use images and cognitive forms to rationalize physical behavior, while storing accumulated human experiences and knowledge and using them in the decision-making process.” (Khawald and Thaligia, 2012, P.10)

2.1.3The importance of artificial intelligence

One of the importance of artificial intelligence is that it makes computers perform tasks similar to and approximate to human intelligence processes, including education, deduction and decision-making, the aim of artificial intelligence is to enable machines to process information closer to a human in solving problems, where several orders are executed at the same time, and this is closer to the human way of solving problems.

2.1.4 Objectives of artificial intelligence

The science of artificial intelligence generally aims to understand the

nature of human intelligence by making computer programs capable of simulating intelligent human behavior, and it means the ability of a computer program to bring a certain issue or make a decision in a situation, as the program itself finds the method that must be followed to solve the question or to arrive at a decision by referring to the various inferential processes that were introduced into the program.

The book Winston and Prendergast, 1984 lays down three primary goals of artificial intelligence: (Alawzi, 2012)

1. Make devices smarter.
2. Understand what intelligence is.
3. Make devices more useful.

As the purpose of artificial intelligence lies in the interpretation of the situation or the text in some cases, it is related to the activity of construction, the function of the situation and the goal, through 'problem solving' that concerns, (Cazenave, 2011)

- Design issues.
- Planning problems.
- Diagnostic problems.

Based on the above, it can be said that artificial intelligence has several goals, the most important of which can be summarized in the following two points: (Afifi, 2014)

- Enabling machines to process information as close to the human way of solving problems, in other words, Processing Parallel, where several commands are executed at the same time, and this is the closest human way to solving problems.

- A better understanding of what human intelligence is by deciphering the brain so that it can be simulated, as it is known that the nervous system and the human brain are the most complex organs and they work interconnected and permanently in identifying things.

2.1.5 characteristics of artificial intelligence

Artificial intelligence has many features, including: (Alnajar, 2010)

1. Using intelligence to solve the problems presented in the absence of full information.
2. The ability to think and realize.
3. The ability to acquire and apply knowledge.
4. The ability to learn and understand from past experiences.
5. The ability to use old experiences and employ them in new situations.
6. The ability to use trial and error to explore different things.
7. The ability to respond quickly to new situations and circumstances.
8. The ability to deal with difficult and complex situations.
9. The ability to deal with mysterious situations in the absence of information.

10. The ability to distinguish the relative importance of the elements of the cases displayed.

11. The ability to visualize, innovate and understand visual things.

12. The ability to provide information to support administrative decisions.

In other words, artificial intelligence has the following set of features: (Matai, 2012)

1. The possibility of representing knowledge: Artificial intelligence programs, unlike statistical programs, contain a method of representing information, using a special structure to describe knowledge, and this structure contains facts, relationship and rules…etc., the set of knowledge structures is the knowledge base, and this rule provides as much information as possible about the problem to be solved.

2. Use optimistic experimental style: An important characteristic in the field of artificial intelligence is that its programs break into problems that do not have a known general solution method, and this means that programs that use sequential steps lead to the correct solution but you choose a certain method for solving that seems good, while retaining the possibility of changing the method if it turns out that the first option leads to the solution quickly, which focusing on solutions Sufficient and not confirming the optimal or accurate solutions as is the case in the current traditional programs, and from this point of view, solving equations of the second degree is not considered one of the artificial intelligence programs because the method is known, but the chess game

programs are good examples of artificial intelligence programs, due to the absence of a clear and sure way to determine the next movement.

3. The ability to deal with missing information: Another characteristic that artificial intelligence programs can do is its ability to find some solutions even if the information is not fully available at the time when the solution is required, and that the consequences of not integrating information lead to less realistic or less worthy conclusions, but on the part of another conclusion may be correct.

4. The ability to learn: One of the important characteristics of intelligent behavior is the ability to learn from past experiences and practices, in addition to the ability to improve performance by taking into account previous mistakes.

5. Inference ability: It is the ability to derive possible solutions to a specific problem and from the reality of known data and previous experiences, especially for problems with which it is not possible to use the traditional means known to solve, this ability is achieved on the computer by storing all possible solutions in addition to using laws or inference strategies and laws of logic.

2.1.6 Reasons for interest in artificial intelligence

Due to the great importance of artificial intelligence, this has led to the emergence of many reasons for interest in it, some of which can be mentioned as follows:

A. Establishing an organized knowledge database: so that information is

stored effectively so that employees in the organization, especially those working in knowledge departments, can obtain knowledge and learn empirical rules that are not available in books or other sources of information.

B. Storing information and knowledge related to artificial intelligence: where the organization can protect its own knowledge from leakage and loss due to employee leakage from it by resigning, moving from the institution or death.

C. Establishing a mechanism that is not subject to human feelings: such as anxiety or fatigue and exhaustion, especially when it comes to exhausting work that represents a physical and mental danger.

D. Generating and finding solutions to complex problems: analyzing and addressing these problems in an appropriate and short time.

2.1.7 Artificial intelligence applications

Artificial intelligence has several topics in which it is applied, some of which are mentioned in the following points:

- Expert systems design.

- Logical deduction.

- The games.

- Knowledge representation.

- learning.

- Robots, vision, image.

- Speech and writing recognition.

- Interaction between a person and a machine.

- Understanding of natural languages.

- Multi-talent system.

- Planning.

- Get rid of restrictions.

- Computational Linguistics.

- Neural networks.

In general, we can limit the applications of artificial intelligence to three main areas: applications of cognitive science, applications of intelligent machines, applications of robotics, and applications of natural interfaces.

2.1.8 Artificial Intelligence Systems

Artificial intelligence systems include:

1- System Expert: Expert systems are special information programs that aim to simulate the human logic of experts in a special field of knowledge. This definition consists of two important aspects, on the one hand, the value of information programs, which is the guarantor of the

> effectiveness of the expert system, is one of the concerns of computer science, and on the other hand, the expertise in the field that must be controlled is the field of knowledge engineering that searches for effectiveness. (Belhamo and Arzi, 2017)

The expert system is simply a computer program designed to model the knowledge and ability of the human expert to solve problems. A specific set of activities so that the system can replace the humanitarian expert, and exercise its role in solving complex administrative problems through the final beneficiary. (Yassin, 2018)

The application of expert systems in business organizations has several benefits that can be summarized as follows:

1. Availability of facilities for storing knowledge, representing knowledge, retrieving knowledge, and using knowledge to solve problems that are subject to conditions of risk and uncertainty.
2. Providing direct support to the administrative decision-making process.
3. Preserving the accumulated knowledge and experiences of knowledge workers.
4. Using expert systems in real time, regardless of the environmental, social and psychological conditions.
5. Ensuring rationality when making administrative decisions.

Expert systems play an important role in the field of decision-making, as they rely on artificial intelligence tools to identify problems through the knowledge base, which is one of the components of the expert system. The

latter develops and evaluates alternatives to solutions and proposes the appropriate solution, where the expert systems have the logic that helps to do so. (Hamad and Nasib, 2017)

2- Neural Networks systems: Neural networks are networks based on knowledge base systems distributed over a package of systems and programs that work through a large number of processors in a parallel processing style, and neural networks are based on knowledge bases and use ambiguous non-categorical logic. (Yassin, 2011)

The design of neural networks simulates the structure and performance of the human brain, by interconnecting the processors in a parallel and dynamic manner that interacts between patterns and relationships in the data they process, meaning that neural networks learn to distinguish between the data they receive in order to benefit from the largest possible amount of knowledge In order to perform several attempts on the same data.

Thus, it can be said that neural networks are dynamic information systems that are formed and programmed throughout the development period devoted to training and learning. That is, they are systems that learn from experience and gain their experiences and knowledge through training and learning in practice. (Yassin, 2004)

Artificial neural networks contribute to decision-making. Therefore, when designing this network, the data included in the design must be accurately counted and translated into numbers, taking into account the following steps: (Froum and others, 2009)

- Determine the objectives of the decisions you take and arrange them in order of priority.

- Make the most effective decisions out of a number of possible options.

- Implement your decision and evaluate its consequences.

2.1.9 The components of artificial intelligence

The science of artificial intelligence as a whole is based on two basic principles: (Afifi, 2014)

- The first principle: Data representation: It is how to represent the data or the problem in the computer so that the computer can process it and produce the appropriate output, or rather: how to put the problem in an appropriate form for the computer so that it understands it and can think of a solution.

- The second principle: Research: It is what we consider to be thinking in itself, where the computer searches for the options available to it and evaluates them according to criteria set for it, or he devises them himself and then decides the best solution.

Artificial intelligence consists of three basic components: (Afifi, 2014)

1- Knowledge base: The level of system performance is often measured in terms of the size and quality of the knowledge base it contains. The knowledge base includes:

- Absolute facts: describe the logical relationship between the elements,

concepts, and set of facts based on the experience and practice of experts in the system.

- Methods of solving problems and providing advice.

- Rules based on mathematical formulas.

- Inference Mechanism System: It is programmed procedures that lead the required solution by linking specific rules and facts to form a line of deduction and inference.

2 - User interface: These are the procedures that equip the beneficiary with appropriate tools to interact with the system during the development and use phase.

Artificial neural networks are dynamic computer information systems that are formed, built and programmed throughout the development period devoted to training and learning, that is, they learn from experience and acquire their knowledge through training and in practice. Various, especially in the areas of finance and business. (Froum and others, 2009)

3- Systems Algorithms Genetic: Genetic algorithms (GA) are computer programs that simulate biological processes in order to analyze the problems of evolutionary systems. Genetic algorithms in their current form appeared in the year 1975 (by John Holland at the University of Michigan, and developed in the early eighties to become one of the Important and effective methods for dealing with complex investigation issues, Search Optimization and Optimization, described as genetics due

to their strong reliance on simulating the work of genetics to reach the optimal solution. (Jbari, 2017)

This technology is based on a practical idea of a computerized program in which the possible solutions to the decision compete with each other, and through the evolutionary struggle, survival is for the best. It is also used in the areas of financial and banking business, logistical operations and controlling the movement of materials. (Khanshour and Maqrani, 2012)

4- Fuzzy Logic System: Fuzzy (fuzzy) logic is also called vague or fluid logic, it is a method that depends on perception and simulates the way of perceiving the human element in terms of estimating values through non-fuzzy data.

The fuzzy logic technique consists of a different set of concepts and techniques of expression or inference of uncertain knowledge, changing or not fully embodied in reality, and fluid logic can form a series of rules for a subject that does not tolerate non-structural values, incomplete statements, and ambiguous facts. In contrast to the categorical logic in which traditional computer programs operate, Wrong/Right, No/Yes, Off/On... etc., the new logic is based on exploring phenomena and other middle or other states, meaning searching for the gray area between the two colors. Contrasting black and white. (Khawalid and Thalejeh, 2012)

And fuzzy logic systems and techniques are used with other integrated systems that work with artificial intelligence techniques, such as expert systems that work with fuzzy logic, neural networks with fuzzy logic or

fuzzy logic networks in the most important areas of business, especially in banking applications such as forecasting the expected return of securities, and managing risk, cash flow planning, investment portfolio management, and other important applications. (Yassin, 2004)

5- Intelligent Agents: An intelligent agent is defined as an object that can perceive its environment in which it is located, through the sensors that this object possesses, and then respond to them by means of execution or prey mechanisms. (Jbari, 2017)

Also, the smart agent is one of the data mining applications from the internet or from internet databases, and the smart agent works through a software package that performs specific tasks or duties of a recurring or predictive nature for the beneficiary, and to support a business activity or other software applications.(Yassin, 2012)

Asmart agent consists of the following elements that interact between them: (Jbari, 2017)

A- Perception: the data received by the agent through the sensors.

B- Reaction: the events issued by the agent.

C- Rational agent or logical agent: It is the agent that behaves correctly, and this means that each row of the function table contains valid data.

The smart agent systems contribute to alleviating the burdens of electronic management, as well as ensuring a rapid response to customer requests, receiving their messages and observations regarding the quality of products and services provided by the organization.

And sometimes the administration resorts to assigning the smart agent to read the e-mail, filter or sort the sales agents' reports, and perhaps search for the cheapest airline ticket or the best sales deal executed during the last month by the company's branches, and other tasks that are devoid of intelligence. and skill. Today, there are a wide variety of uses for smart agent programs in operating systems, application programs, network tools, e-business and e-commerce. (Yassin, 2012)

2.1.10 Areas of artificial intelligence

1. Robot.
2. Computer software development.
3. Developing computer applications in medical diagnosis in clinics and hospitals.
4. Developing a search mechanism on a computer via the Internet.
5. Development of stock trading systems.
6. Cognitive simulation development, using computers to test theories about how the human brain works and the functions it performs, such as recognizing familiar faces and activating memory. (Damrawi, 2021)

2.1.11 Advantages of artificial intelligence

1. Reduce human error.
2. Bear the risks that humans may receive, such as the intervention of the robot to remove the injured from burning buildings.
3. Permanent work without a break.

4. Artificial intelligence helps make faster decisions.
5. Store and retrieve data quickly, with fewer efforts, and more effectively.
6. Not affected by environmental conditions.
7. Artificial intelligence helps to carry out routine tasks that exhaust people and waste their time.

2.1.12 Disadvantages of artificial intelligence

1. People get lazy.
2. Unemployment increases, companies replace employees with artificial intelligence.
3. Lack of creative ideas to solve problems and think outside the box.
4. May cause addiction and impaired human communication.
5. Dealing with artificial intelligence is devoid of emotions, which leads to weakness in team spirit.

2.1.13 Obstacles to the application of artificial intelligence in Palestine

1. High manufacturing costs.
2. Lack of adequate infrastructure.
3. Lack of human cadres prepared and trained to use artificial intelligence.
4. Facing difficulty with the flexibility of moving to work on complex and intelligent applications.

2.1.14 Applications of Artificial intelligence in the tax field

The tax field is one of the fertile areas for the use of expert systems in many tax activities, as accounting offices take a lot of time in interpreting tax rules and instructions to determine their applicability to clients, and therefore simplifying the tax system using artificial intelligence technology will have a significant impact on the amount of time the time taken to perform the service, the use of tax expert systems and the knowledge base of tax rules and provisions contribute to helping companies and individuals reduce their tax liability, as will become clear impact on the quality of services provided to the client. (Borthick and D.West, 1987)

It has been found from the study and analysis of expert systems that they are used in many tax fields such as tax planning, preparation of tax income, interpretation tax rules and instructions, preparation of tax returns and other regulations different tax (Soufi et al, 2013). By 1990, the US internal revenue service(IRS) had established and used approximately 13 expert systems, and conducted two training programs, one of which is concerned with training managers to evaluate the performance of external expert systems developers they have contracted, and the other is concerned with training their computer engineers and programmers to create their own expert system, that given the extent to which these systems are used in the tax field, the many advantages they will achieve (Al Dweik and Salem, 2013).

There are many expert systems used in the tax field, including the expert

systems for international tax planning in the oil and gas industry, the value-added tax system, the tax system on shares and investments, as well as tax evasion solutions.

2.1.15 The future of artificial intelligence

Digital technologies and automation have replaced workers in agriculture and manufacturing for decades, and will now include the service sector. More ancient professions will continue to disappear, and while we can only guess at the scale of the upcoming turmoil, we should be aware of its gravity. Any job where people work superficially is now in danger (Luciano Floridi,2018).

But at the same time, new job opportunities will appear, because we will need new intermediaries between automated services, websites, artificial intelligence applications, etc. Someone will have to review a translation provided by the AI to make it accurate and reliable. What's more, many tasks will not be cost-effective for AI applications.

It is also a risk that AI will only continue to fragment our societies between the haves and the never-haves if we do not overcome its effects. It is not hard to imagine a future social hierarchy in which some nobles will occupy a place above the machines and a new, formidable lower class of commoners. Meanwhile, as jobs vanish, tax revenues will face the same fate, and it is likely that companies that will benefit from AI will be willing to support the social programs of its former employees (Luciano Floridi, 2018).

Instead, we have to do something to make companies pay more, perhaps with 'robo-tax' on AI applications. We should also create the necessary legislation and regulations to preserve the 'humanity' of certain jobs.

2.1.16 Countries' experiences in the use of artificial intelligence

AuRoSS Robot (Autonomous Robotic Shelf Scanning System): It is an automated shelving scanning system developed in Singapore by the Agency for Science, Technology and Research, Self-navigating through the shelves of the National Library of Singapore, scanning marks RFID(Radio Frequency Identification) in books, Finally, a report on missing and non-serial books is issued accuracy up to 99% (Blakemore, 2019).

Within the framework of storage and retrieval tasks, many libraries, such as Macquarie University Library in Australia, the National Library in New Zealand, Limerick University Library in Ireland, Clara Santa University Library in the United States of America, and the Public Library in Stuttgart, Germany, have used the automated system for storage and retrieval, which greatly reduces the human role in the mentioned operations with a record level of effectiveness and speed (Willis & Heinrich, 2014)

Smart/ Intelligent Building: They appeared at the beginning of the eighties of the twentieth century, which are buildings that integrate it includes environmental systems, such as energy use, temperature control, lighting, sound, workplace and communications (Caffrey, 1990).It was applied for the first time in the United States of America.

Such as Saruq Al Hadid Museum Dubai - United Arab Emirates and Shennawy Palace Mansoura–Egypt.

2.1.17 Introduction of Income tax

Taxes are considered one of the most important relations between the citizen and the government. Because of their great impact on public life, and they are the main source of financing public activities that affect the citizen, and they are not only considered sources of income for the government and its various expenses, but are also considered funding available to achieve public services for citizens, the state manages this through its various agencies. This applies to the Palestinian case, taking into account the Palestinian specificity. Where the Palestinian National Authority makes laws and regulations for tax, and in return, the citizen is required to respond to these laws.

2.1.18 The evolution of income tax in Palestine

Income tax was imposed in Palestine for the first time and officially during the era of the British Mandate over Palestine, and that was the issuance of Law No. 23 of 1941 and became effective from the date of 1/9/1941. Thus, Palestine is the fourth Arab country to impose income tax.

In 1947 the previous law was amended and law No. 13 of 1947 was promulgated. This law did not bring a major change, but it created new areas for tax, whereby it subjected the profits that come from any property other than buildings, land and industrial buildings, and it also subjected export profits and agricultural profits to tax, as it did this the law reduces the tax brackets to six and increases the maximum tax rates so that it starts from 5% and ends with a maximum of up to 50%, and imposes a

proportional tax on companies at 25%. This law also works to address double taxation. After the withdrawal of the British Mandate from Palestine in 1948, work remained in this area the law in the Gaza Strip, where the Egyptian administration kept the tax matters as they were, and law No. 13 of 1947 continued to work. (AlSlamen and Daqa, 2014)

As for the West Bank, the British Mandate clearly ended Law No. 13 and the Jordanian government issued new tax laws until Law No. 50 of 1951 was issued. This law unified the income tax laws for both the West Bank and the East Bank and remained in force until it was replaced by Law No. 12 for the year 1945.(AlSlamen and Daqa, 2014).

The last laws issued during that period were law No. 25 of 1964, which expanded the coverage of taxation, increased the rate of escalation in tax rates, and provided for the Income Tax Appeal Court to settle tax disputes, and the adoption of the regional standard in subjecting income to tax. And in 1967, after all of Palestine became under Israeli occupation, the tax situation remained as it was, as it was amended by issuing military orders that serve and reinforce the existence of the occupation according to law No. 25 of 1964, of which only the external framework remains. , And all the amendments issued were in the interest of the occupation, and these amendments affected the Palestinian Law No. 13 of 1947 applied in Gaza as well, and this situation continued until the arrival of the Palestinian National Authority in 1994. (Alawni, 1997)

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On 1/12/1994, the Palestinian National Authority took over the tasks entrusted to the Income Tax Department based on the Paris Economic Protocol and canceled all military orders related to taxes and their collection, and introduced a set of facilities and amendments approved by the Palestinian Cabinet at the beginning of 1995, including the amendment of tax brackets and rates, reducing these rates, amending and increasing personal and family exemptions, and tax collection and tax collection from the two has become based on legislative foundations, regulations, and administrative instructions that are clear and equitable to taxpayers and the state treasury.

These laws remained in force until the Palestinian National Authority approved Income Tax Law No. 17 of 2004, which came into force on 1/1/2005. This law was unified between the West Bank and Gaza, and then it was amended in 2008, when a law was issued. No. 2 of 2008.

In the year 2011, a decision was issued by Law No. 8 of 2011 regarding the

Palestinian income tax, which introduced many and several amendments, the most important of which is changing the currency of the law from the dollar to the shekel, raising tax exemptions for the taxpayer, increasing the amounts and percentages of some acceptable expenses for tax purposes, such as increasing research expenses and development, hospitality expenses, recognition of capital losses, increasing the number of tax brackets for the individual taxpayer and for companies as well, and other adjustments (Alslamen and Daqa, 2014)

The changes that occurred in Law No. 8 of 2011 regarding income tax can be presented as follows:

1. The number of tax brackets has been reduced and the tax rates have been reduced. Income Tax Law No. 17 of 2004 reduced the tax brackets to three brackets with reduced rates of (8% ,12% ,16%) respectively, compared to previous years.

2. Subsequently, an additional adjustment was made to the tax rates in 2007 to become (5%, 10%, 15%) while maintaining the same number of brackets.

3. Another update was made to the original law issued by the Legislative Council in 2004 so that it was completely repealed and a decision was issued by Law No. 8 of 2011 to become the original law later, and any subsequent amendment is attributed to it as the original law. This decision established new and various percentages and segments, in addition to the fact that the exemption on dividends from selling shares has changed from 100% to 25%.

4. In 2012, the Council of Ministers submitted a proposal for another amendment to the tax rates for the tax brackets by raising the tax rates on individual income and corporate profits by adding two brackets, the first to 22.5% and the second to high income at a tax rate of 30%. The private sector objected to this amendment, and it increased the sharpness of criticism, starting with the linguistic and legal formulation and ending with ambiguity and lack of transparency and its negative impact on economic and investment activity. After a serious dialogue with the government, the dialogue resulted in the Cabinet's response to the recommendations related to amending the rates on the segments with the addition of a fourth tranche of 20% so that the tax rates range from 5% to 20% for individuals and companies.

5. On March 11, 2014, another amendment was issued, which is a decree-law regarding an amendment to the Income Tax Law Decree-Law No. 8 of 2011, which restored the exemption of capital asset gains resulting from the sale of securities to the full exemption, and the payment of 10% on the interests resulting from programs financing, cancellation of interest on deposits and commissions.

6. The new last amendment was issued on March 31, 2015 by Decree Law No. 5 of 2015 amending the Income Tax Law No. 8 of 2011. This amendment raised the tranche subject to exemption and imposed a tax on monopolistic companies at only 20%, while that segment was abolished for individuals and companies, and the upper tier became 15% on individuals, companies and other corporate entities.

2.1.19 Income tax concept

The concept of income tax was dealt with by many public finance scholars, and all of it was dealt with according to the economic reality in which he was living. Mirabeau defined it in his book “Tax Theory” in (1766) by saying, “The tax is nothing but an amount paid in advance to the state to ensure obtaining the protection of public power.” Brodose defined it in (1868) by saying, “The tax is a price for state services that satisfy public needs.” And Geese in (1931) defined it as “a cash deduction imposed by the authority on individuals in a final and free manner with the intention of covering public burdens.” However, the most applicable definitions According to its current concept, it is a solidarity financial obligation dominated by a monetary nature, which the state deducts permanently and directly and uses it to achieve its general goals. So, Al-Haj defined it asa sum of money imposed by the state on obligatory and final taxpayers, free of charge, to achieve its various goals. (Alhaj, 2019)

Atman defined it in (1996) as one of the important components in contemporary tax activities, but it has become one of the important tools on which the financial policy tools depend in achieving the economic and social goals of society.As Al-Ashmawi and Atman defined it in (1990), it is an obligatory duty free of charge imposed on individuals and funds in order to support public spending. AndShamiya and Al-Khatib defined it in (1997) as one of the financial means that enables the state to intervene in economic and productive activities, and direct these activities in the right direction.

2.1.20 Tax brackets in Palestine

According to the Palestinian Income Tax Law No. 8 of 2011, the tax brackets on the income of individuals and companies are as follows: (PIPA, 2011)

Table No. (2): Income tax brackets for individuals and companies

Taxable Income NIS	The ratio %
Individual	
1-75,000	5%
75,001 – 150,000	10%
150,001 and more	15%
Company's	
Company's	15%
Telecommunications companies and companies with a privilege	20%

2. 1.21 Income tax deductions for individuals

Individual income tax deductions are allowed as follows: (Palestinian Investment Promotion Agency, 2011)

- Personal exemption of 36 thousand NIS.
- 10% transfer allowance of the total annual salary of private sector employees.
- A university exemption of 6000 NIS annually, with the exception of the student who received a scholarship or scholarship.
- Exemption for the purchase or construction of a residential home at a value of 30,000 shekels for one time only

Exemption from the amount of actual interest paid on a bank loan, lending

institution, or housing that was spent on buying or building housing, with a maximum of 4000 shekels annually, provided that it does not exceed 10 years.

2.1.22 Tax breaks for individuals

- Capital gains from the sale of property.

- Capital gains from the sale of investments in securities.

2.1.23 Corporate Income Tax

- A company is considered resident if it is incorporated, managed or controlled in Palestine.

- Taxable income is from 15%-20% depending on the net profits of companies, and the type of company.

2.1.24 Deductions for Corporate Income Tax

- Expenses of searching for new markets, including no more than 2% of the total income, and a maximum of 500,000 shekels.

- Actual expenditures for internal research and development, scientific research and partnership with scientific institutions for the purpose of development.

- Training expenses for employees. (PIPA, 2011)

- Actual expenditures for adopting Palestinian specifications and standards and the optimal application of enterprise management, including the development of electronic accounting systems and the adoption of international accounting standards.

- Hospitality expenses of no more than (1%) Of total income or 150,000 shekels per year, whichever is lower for the natural and moral person, except for public joint stock companies, where this maintenance is accepted at a rate of not more than (1%) of gross income or 300,000 shekels whichever is lower per year.

2.1.25 Corporate Tax Credits

- Capital gains from the sale of property.

- Capital gains from the sale of securities investments.

- Allows to proceed with losses for 5 years but does not allow to bear losses again.

2.1.26 How to Collect Income Tax in Palestine

Income tax is collected in Palestine through income tax offices in all Palestinian provinces and the Directorate of Taxation and Computers for non-profit organizations and this process begins from registration and opening the file through the transfer of the tax file to the closure of the tax file. (Palestinian Income Tax Law, 2011)

With regard to the registration service and the opening of a file in income tax, it is carried out on the basis of the decision of law No. 8 of 2011, which obliges every person to engage in any activity or business within Palestine in addition to subjecting any income earned to a Palestinian person outside Palestine who was arising from his money or deposits in Palestine to register with the income tax departments from the beginning of the activity or to do business no matter how large that activity is an obligation. (PIPA, 2011)

This service is provided through income tax offices scattered in all provinces of the country in addition to the Directorate of Taxation and Computers located in the General Administration of Income Tax building in Ramallah, which is concerned with registering the activity of non-profit organizations.

To open this file, the following data must be available:

- The name of the owner of the file, whether he is a natural or moral person.

- The identity number or passport of the person in charge if he is a natural person or a partner in a normal partnership and the registration number in the company register issued by the corporate controller if the person in charge is a moral person. (Ministry of Finance. 2021)

- The nature of the work or activity to be practiced by the taxpayer.

- Start date of this work or activity.

- The detailed address of the activity and work of the taxpayer.

- The commissioner's name for the person in charge, if any.

- Employees and employees of the taxpayer in terms of their number and average salaries.

- The signature of the person in charge or commissioner on the application.

Tax file opening request attachments:

- An identity picture or passport of the individual person issued by the official authorities. (Income tax taxpayer guide. 2011)

- Registration certificate from the Corporate Controller for public joint stock companies and limited privacy.

- Lease approved by the Property Tax Department if it exists.

- A valid authorization signed explicitly by the individual file holder or by the commissioner of the joint stock company as stated in the founding contract and its rules of procedure.

- Owners of commercial and public vehicles must bring a waiver contract approved by the Traffic Department or a valid license for the vehicle. (Ministry of Finance, 2021).

- Open a deduction file if there are users or deduct a tax from the source.

License of professions and crafts. -

- Certificate of practice for self-employed persons.

- Any other necessary documents such as proof of closure of a previous work or proof of travel abroad.

This service is provided by the estimated in the tax departments according to the type of activity or work to be opened tax file as each estimator is responsible for different types of professions and a tax file is opened for the profession under his responsibility. (Income tax taxpayer guide, 2012)

2.1.26.1. Implementation stages

The tax file opening service is done as soon as possible as it goes through the next stages:

- Receipt of the request to open the file from the official or commissioner

and verify the validity of its packaging and attachments and sign it by the receptionist in the Department. (Income Service Guide, 2011)

- Supply the application to open the file and its annexes officially and give the applicant a sealed copy of it.

- Send the request to open the file to the estimated person in charge of the profession of the taxpayer to do whatever is necessary in order to open a new file for the person in charge of paper and computer.

The applicant shall be given notice to open a file from the date of the start of the activity and his number shall be according to the identity number or passport of the natural individual and the registration number according to the registration certificate from the corporate controller of the moral person. (Income Service Guide, 2011)

The service is delivered manually and the beneficiaries of this service are natural persons, moral persons and non-profit organizations, which is duty-free.

Time required: estimate

Outputs: Issuing a certificate with the tax number.

2.1.26.2. Transfer of tax file

This service is provided when the tax file is transferred from a regional income tax office to another regional income tax office if there are positive reasons for transportation, such as the relocation of the place of activity of the taxpayer

This service is provided in the regional offices of income tax/tax and computer directorate for non-profit organizations.

When providing this service, the following is requested:

- Submitting a written request to the office to be transferred to the office to which the file is to be transferred. (Income Service Guide, 2011)
- Payment of the taxpayer's full tax obligations before agreeing to transfer his file from the office from which he was transferred.

Executors: The administrator in charge of the file.

Stages of implementation: Once the person in charge of the transfer request submits his file and verifies its causes, the regional office from which the file is transferred is informed of the transfer request and the tax collector meets his dues, the file is transferred computerly and paper immediately.

Service delivery channels: manual

Beneficiaries: natural persons, moral persons, non-profit organizations

Fees: Exempted

Time required: Estimate.

2.1.26.3. Closing the Tax File

It is a service that is done when the file of the taxpayer who stops his activity and currency is closed. It is provided in the regional offices of income tax/directorate of collection and computer for non-profit organizations. (Income Service Guide, 2011)

In order to complete this service, the official submits a written request to close the file in its open regional office, indicating the reasons for closing the file, in addition to submitting all the documents necessary to close the file, and verifying the reasons for the closure.

Executors: The administrator in charge of the file.

2.1.26.4. Implementation Stages

- Check the end of the taxable taxpayer's activity or work.

- Settle the file and pay the taxes it may entail before closing the file

- Closing the tax file.

Service delivery channels: manual

Beneficiaries: natural persons, moral persons, non-profit organizations

Fees: Exempted

Time required: Estimate

Outputs: Decision to close the tax file.

2.1.26.5. Exemption of savings funds, health insurance and social security

This service is carried out with the approval of the Minister of Finance to exempt savings funds, health insurance, social security and other funds from income tax.

To accomplish this, a written request is made to the Minister of Finance or the Director General of Income Tax to obtain the Fund's income tax

exemption with the following documents: (Income Service Guide, 2011)

- Registration certificate/ trade name certificate issued by official authorities.

- The rules of procedure for private institutions or companies, associations and non-profit companies are duly approved.

- The rules of procedure for savings, health insurance and other funds requiring approval by the Minister of Finance and Planning are approved by the Ministry of Labor.

- Bring a valid authorization according to the form adopted by the Department to the person authorized to follow up.

- Bring a valid income tax clearance certificate (disclaimer) for the purposes of obtaining the exemption of the Fund.

(Income Service Guide, 2011)- Leases approved by the property tax.

- The financial statements of the company or the institution that owns the fund are audited by a legal auditor.

- The financial statements of the Savings Fund or other funds are audited by a legal auditor.

- A sample of salary vouchers for employees working in the institution or company for the last 3 years.

- A detailed disclosure of the salaries of the staff benefiting from the Fund showing the total salaries and exemptions granted to employees and the tax due.

- An independent bank account for the fund's assets separate from the accounts of the company or institution. (Income Service Guide, 2011)

Implementers: Directorate of Collection and Computers/ General Administration of In

2.1.26.6 Implementation Stages

- Validate and complete all data provided.

- Check the same vouchers and payroll of employees and match them with what is declared in the deductions section.

- Examination and audit of financial statements relating to the institution and its fund in terms of the contribution ratio of both the institution and the staff in this fund and the matching of assets. (Income tax law. 2011)

- Make the necessary recommendation to obtain exemption from the competent authorities.

Service delivery channels: manual

Beneficiaries: Moral persons, non-profit organizations

Fees: Exempted

Time required: Estimate

Outputs: A book signed by the Minister of Finance states that the exemption is obtained. (Income tax law. 2011.

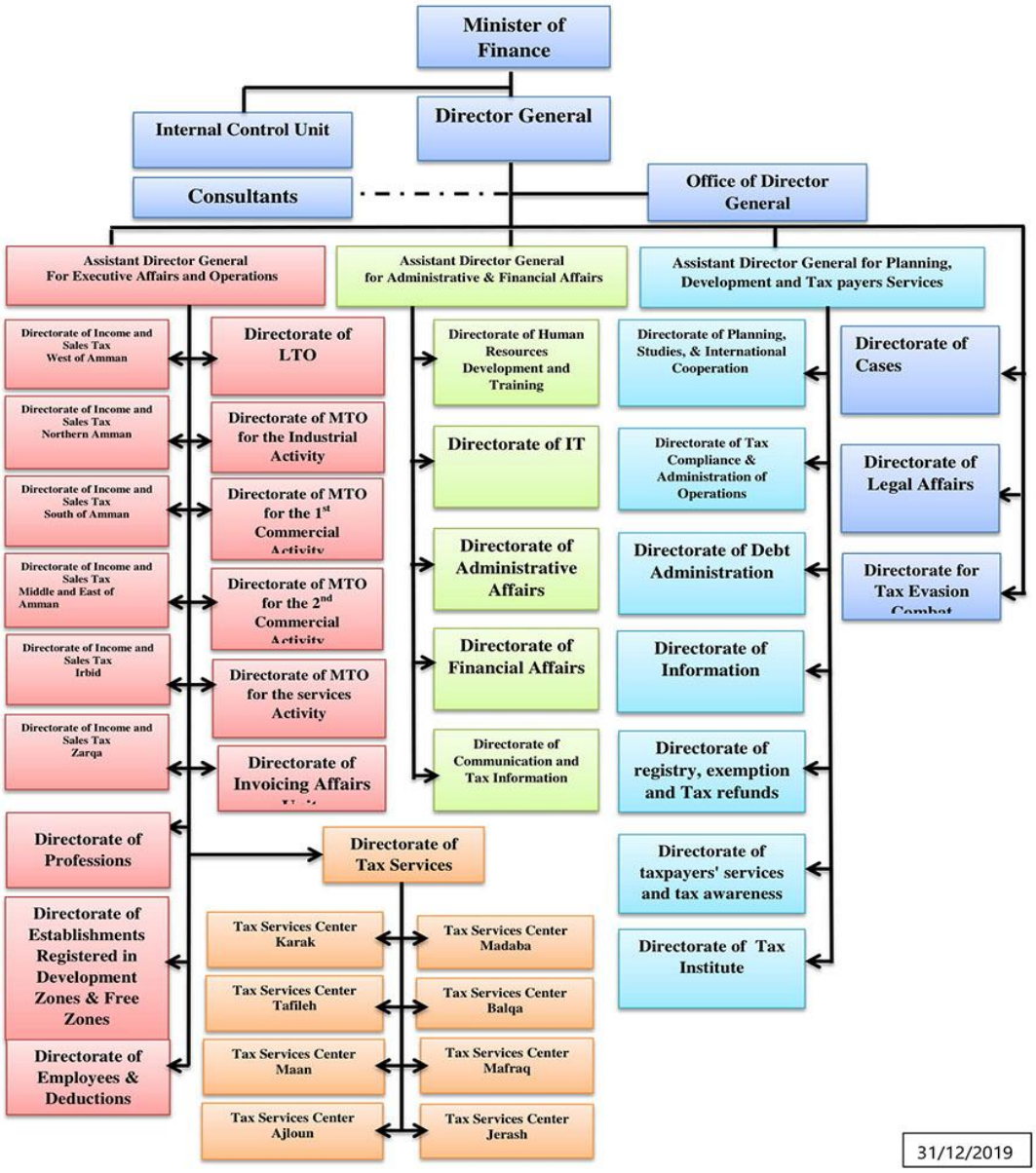

Figure No. (1): The Organizational Structure of Income Tax Departments in Palestine
Source: Ministry of Finance Bulletins 2019

2.1.27General IT Department in Income Tax Departments

Technological services are responsible for facilitating the tasks of other professional departments with financial and administrative competences, and their role extends to the development of the ministry's human staff and providing it with the required logistical support. (Income tax law, 2011)

Basic IT Tasks:

- Drawing up computerization policies for the ministry's activities, and identifying the ministry's computer needs.

- Contribute to providing government ministries and institutions with their technological needs.

- Activating the human and cognitive capabilities in the ministry and developing computerized systems. (PIPA, 2021)

2.1.28 IT Goals

- Design of permanent development plans for the development of computerized work within all services.

- Computerization of administrative and financial procedures and the development of computerized programs used in line with modern technological developments.

- Human resources development through a comprehensive training plan. (Ministry of Finance, 2021

2.1.29 E-Programs used in Income Tax Departments

Besan Programming Company, in cooperation with the employees of the Ministry of Finance working in the tax departments and tax computers, designed the revenue management program with the aim of replacing three information systems used in the income tax and VAT departments, including the Israeli program "Shaeim", which was used in the Palestinian tax departments 20 years ago, which is an old system limited to jobs and difficult to update and develop and suffers from many problems, especially

with regard to language and the failure to provide accurate data and reports required to work sometimes Because of problems in the work of the system that could not be solved, and because it is an Israeli system, it often stopped working during Israeli holidays and holidays. (Ministry of Finance, 2021)

The new revenue management program is characterized by the fact that it contains a large database that enables the employee to access it easily, and it facilitates and saves time and effort on the taxpayers to obtain all the information and tax reports of their own and complete their transactions in an easy and convenient way, which is a unified system in Arabic and based on a unified registration of the taxpayer and contains all the information available to the tax administration about the taxpayers. By 2014, this online system has been provided to taxpayers who have access to services through this system, including access to statements, disclosures, tax returns and electronic payments without having to go to any tax offices, and links the system to a number of other information systems that contain important tax work data, including the Customs Escoda program. (Ministry of Finance, 2021)

2.1.30 Income Tax Models

- Tax forms of the amended 2004 law.

- Tax forms of the 2004 Law.

- Income tax returns for 2011.

- Tax forms for 2011.

- Cut-off models.

- Discount form from source.

VAT

- Invoices Bank

2.1.31 Evaluation criteria and models - Management

- Evaluation criteria

- Evaluation models

2.1.32 Assessment procedures in the Income Tax Departments

The stage of self-assessment by the taxpayer - according to Article No. (17) Clause 1 Paragraph A:

This stage is represented in the taxpayer's declaration of his income to the Income Tax Department according to the form approved by the department (tax declaration), in addition to the attachments stipulated in the law. Where the taxpayer announces his income and estimates the tax due on his income during the end tax period, and pays this tax (called the declared tax) when submitting the tax return.

Action by the department:

Receipt of the declaration from the taxpayer: where the taxpayer must submit the tax declaration to the department within the four months following the end of the tax period, and upon receipt of the tax declaration, the declaration data is entered into the system (RMS program) under code (99), which means receipt of a declaration, and in return the taxpayer receives Receipt of an acknowledgment issued by the department.

The stage of conducting the assessment by the department:

There are several types of assessments made by the estimator in the Income Tax Department, explained as follows:

1. Decision estimating code (01), which means that the estimator accepts the tax return submitted by the taxpayer without any modification.

2. Code estimation decision (02), which means that the estimator does not accept the tax return in part or in full, and accordingly, amendments are made to the tax return in accordance with the provisions of the law, thus adjusting the income and tax due and with the approval of the taxpayer or his delegate.

3. Code estimation decision (03), which means that the estimator does not accept the tax return in part or in whole, and accordingly, amendments are made to the tax return in accordance with the provisions of the law, which leads to the amendment of the income and tax due, but without the taxpayer's approval of these amendments.

4. Code estimation decision (04), which means that the estimator estimates the taxpayer's income and the tax due on it according to acumen and know-how, due to the taxpayer's failure to submit the tax return in accordance with the provisions of the law.

In the event that the assessor makes the administrative assessment (03 + 04) in accordance with the provisions of Article No. (17), Clause (1), Paragraph (B). The taxpayer must pay the assessed tax contained in the assessment notice if it is approved, or submit an objection to this assessment before the department, and this stage is called (the administrative appeal stage), where the taxpayer has the right to object to

this assessment within 30 days from the date of his notification of assessment indicating in his objection list, the reasons on which he bases his objection and the assessed tax amount to be recognized. The objector shall pay, upon submitting his objection, the undisputed amount of tax (the amount of tax accepted).

Administrative assessment (03+04) results in assessment decisions called objection stage decisions, and these decisions bear each of the codes (07) and (09), show them as follows:

5. Estimation decision code (07), which means an agreement assessment decision after an objection, that is, after discussing the objection submitted by the taxpayer to the estimates (03 or 04), an agreement is reached between the assessor and the taxpayer on the amount of income achieved in the years subject to the objection and the tax due on it.

6. Decision estimating code (09), which means estimating disagreement after an objection, that is, after discussing the objection submitted by the taxpayer to the estimations (03 or 04) no agreement has been reached between the estimator and the taxpayer. In this estimation, the appraiser may approve or increase the objected estimation. In the event that this type of assessment is issued, the taxpayer has the right to appeal against it before the Income Tax Appeals Court within 30 days from the date on which he was notified of the assessment.

7. Decision estimating code (06) and this type of estimation is related to the lump-sum tax on vehicles (whether commercial, cargo transport, public passenger transport, buses etc.).

8. Code (08) assessment decision, which is a lump-sum tax assessment decision, imposed on any person except for public shareholding companies, provided that the tax due for any year of the last five years does not exceed (10,000 shekels), this assessment is made not to exceed 5 years. The Director General may cancel it. Every person to whom the lump-sum tax is imposed must pay it within 30 days from the end of each of the years to which that tax applies. Any person against whom the lump-sum tax has been imposed has the right to object to it in writing, to be submitted to the department within 30 days from the date of notification, and the decision issued after considering the objection is subject to appeal before the Income Tax Appeals Court.

9. Estimation decision code (05): It is the decision to re-evaluate the decision issued by the minister or the employee authorized by him in writing, in accordance with the provisions of Article No. (26) of the law. The law permits the minister or his authorized representative to reconsider the tax return submitted within 4 years from the date of its submission and to reconsider the assessments made by the assessor during the 4 years following the year in which the assessment was made, provided that the taxpayer is given an opportunity to hear his words and submit his defenses.

It is not permissible for the minister or the employee authorized by him to take a decision to reduce the tax except in the cases specified by law, which are:

- Correcting arithmetic errors.

- Amending the exemptions stipulated in the law and any set-off or deduction mentioned in it.

The law grants the minister or employee authorized by him the authority to carry out a re-evaluation in an estimate that the court has decided on, provided that the reason for the re-evaluation is to hold the taxpayer accountable for his income from any source that was not one of the facts in which the court decided on the subject matter when it considered the appeal submitted regarding that assessment.

The decision issued by the Minister or the employee authorized by him is considered subject to appeal to the Income Tax Appeals Court within 30 days from the date on which the taxpayer is notified of the assessment. Where the law, in accordance with the provisions of Article No. (29) of it, formed a special court called the Income Tax Court of Appeal, which is competent to consider any appeal submitted to challenge assessment decisions or decisions to reconsider assessment that may be appealed under the provisions of the law, as well as claims related to any amounts that must be Deducted, paid or withheld as a final tax or paid on the account of the tax (advancements). Accordingly, the decisions of the judicial appeal stage are:

1. The decision issued by the estimator Code (09) a decision of non-agreement after an objection.

2. Re-evaluation decisions issued by the minister or the employee authorized by him, code. (05)

3. Claims related to any amounts that must be deducted, paid or deducted as a final tax or paid on the tax account (advancements).

At this stage (judicial appeal), the appellant must do the following:

1. Pay a fee for each tax period appealed against, and this fee is calculated as follows: 1% X the difference between (the estimated tax - the amount of tax recognized), provided that the amount of this fee is not less than 300 shekels and not more than 600 shekels for each tax period (year). In the event of a renewal of the appeal, half of the fee is paid.

2. The appellant shall indicate in the appeal statement the amount of the tax recognized from the assessed tax, and he must pay it and attach a receipt to the appeal statement, otherwise the appeal shall not be rejected in form.

3. The appellant must establish evidence that the assessment is exorbitant, and he may not prove any facts that he did not initially claim before the issuer of the decision.

In the event that a decision to re-assess code (05) was issued and the taxpayer had submitted an appeal against the assessor’s decision for the same tax period, the court must:

- Dropping the appeal submitted to challenge the appraiser's decision

- Considering the appeal submitted against the reassessment decision (05), provided that the appellant pays the difference between the fee resulting from appealing the decision of the authorized employee (05) and the fee resulting from the appeal submitted against the evaluator's decision. (09)

Every judgment or decision issued by the Income Tax Cases Appeal Court is subject to appeal within 30 days from the date it was understood or notified in accordance with the Income Tax Cases Appeal and Cassation System.

The Director General or his authorized representative in writing, in agreement with the appellant or the appellant in cassation, may resolve any of the pending cases, reconciling them before the final ruling is issued, and the agreement in this case is subject to ratification by the court.

The decisions issued during the judicial appeal stage are:

- Decision issued by the Income Tax Appeals Court (Code 11) - an appealable decision.

- A decision issued by the Court of Cassation (Code 13) - a final and binding decision for the parties to the dispute.

In cases that are reconciled, whether they are under consideration in the Court of Appeal or the Court of Cassation, and when approved by the court, they become final and irrevocable.

2.2 Previous studies

Tale's and Khalifa's study, (2017) entitled "Obstacles to the application of electronic management in human resources management "Which aimed to remove the ambiguity about the concept of electronic management and to know the extent of its application on the ground, the researchers used the questionnaire as a tool for collecting data, which was distributed to 39 employees in the municipality of Al- Hujira and the researchers in this study used the descriptive analytical method. One of the most important findings of the study: the existence of technical constraints represented by the weakness of internet service besides the existence of human obstacles represented by the lack of awareness of the importance of electronic management and one of the most important recommendations of this study

is the need for a real will, whether at the level of the government or human resources to provide a comprehensive structure to achieve electronic leasing.

Alqahwash study, (2020) Entitled “Obstacles to the application of electronic

management in the Faculty of Literature, Sabratha University”, which aimed to identify these obstacles from the point of view of the staff and to achieve this goal the researcher used resolution as a tool for collecting data, and the researcher was selected a sample of 40 individual and used the descriptive analytical method and used the methods of statistical representation in the ratios of the leading, mathematical averages, and the most important results of the study and the most important results of the study weakness support of the Ministry of Higher Education for electronic management policy and the absence of courses for awareness only electronic and the most important of what the study recommended the concept of using the concept of the study And specialists to introduce the importance of applying electronic management and the machines applied.

Abdulrahman and Tadros study, (2020) entitled “Obstacles to the application of

electronic management and future aspirations for its circulation”, the study aimed to detect these obstacles and ways of overcoming them and to achieve this goal the researchers used the resolution consisting of 55 paragraphs in order to obtain data and information, the sample of the study consisted of 522 administrators were selected in the random class method and the researchers processed data statistically based on mathematical

averages and standard deviations and the most important findings of the study that human disabilities were the main obstacle in the application of electronic tool and the most important work recommended by the study strategies for the rehabilitation and training of staff.

Stephan study, (2020) entitled “The AI Economist: Improving Equality and Productivity with AI-Driven Tax Policies”, the study aimed to train social planners that discover tax policies in dynamic economies that can effectively trade-off economic equality and productivity. To achieve this goal the researcher used a

two-level deep reinforcement learning approach to learn dynamic tax policies, based on economic simulations in which both agents and a government learn and adapt. The researcher data-driven approach does not make use of economic modeling assumptions, and learns from observational data alone. The researcher makes four main contributions. The most important findings of the study that Tackling real-world socio-economic challenges requires designing and testing economic policies.

Raqeq study, (2015) entitled “The use of artificial intelligence applications in managing the activities of the institution: a case study of a group of economic institutions”, This study aimed to identify information systems and the stages of development of artificial intelligence in economic institutions in Algeria. Before the Algerian institution, it was noticed that the application of expert systems that works according to a database used in the field of accounting, while the artificial neural network is used in many fields, the most important of which is the field of remote control. The study recommended that the Algerian institution needs more and broader use of artificial intelligence.

Liu Jing-Yi study, (2019) entitled “Reform of Tax Collection and Management System by Artificial Intelligence Under the Background of Intelligence Development Strategy”, The aim of this study is to show the application of artificial intelligence tools in the field of tax collection and administrative work. To achieve this goal, the researcher described the reality of artificial intelligence and its importance as a strategy for national development and studying the impact of applying artificial intelligence on tax systems. Effectively collecting and managing taxes and reducing tax collection costs. He recommended the need to reform the tax system and develop models with a new perspective based on the application of artificial intelligence.

AL Amour, (2007) entitled “The phenomenon of income tax evasion: an analytical study on the Gaza Strip”, This study aimed to identify the main reasons behind the spread of the phenomenon of income tax evasion in the Gaza Strip and ways to evade it. To achieve this goal, the researcher used the questionnaire as a data collection tool, which he distributed to a community of 149 an accountant and tax inspector and to process the data, the researcher used the correlation coefficient of percentages, the test of the normal distribution, and T-test. The study reached a number of results, the most important of which are: The main reason for the spread of the phenomenon of tax evasion from the Gaza Strip is the lack of political and security stability, and the most important thing recommended by the researcher is the need to increase transparency in spending public money.

Al Haimouni study, (2017) entitled “Strategic planning for income tax and its relationship to expanding the tax base: A field study on income tax departments in the West Bank”, This study aimed to identify the obstacles

to strategic planning to expand the tax base, and to achieve this goal, the researcher used the questionnaire to collect information and to form the study community from all employees of income tax departments in the West Bank who have the powers of an assessment officer, numbering 135 employees. And that is based on the arithmetic mean SPSS and the test of the normal distribution. One of the most important results of the study is that the degree of strategic planning practice in middle income tax departments, and the most important thing recommended by the researcher is the need to include in the strategic plan detailed mechanisms to follow up the implementation of the strategic plan to expand the tax base.

Al Droubi, (2019) entitled "Tax objections, their causes and ways to address them from the point of view of both income tax assessors and senior taxpayers", This study aimed to find out the main reasons for tax objections. The researcher adopted the questionnaire as a tool for collecting information and distributed it to a sample of 98 employees from the Income Tax Department and 311 senior taxpayers. The researcher used the statistical package SPSS program to process the data. Among the most important findings of the study: There is a weakness in coordination between the Income Tax Department and the rest of the government departments. The researcher recommended the need to activate and expand the mechanisms for linking between the Income Tax Department and other government institutions.

Awwad study, (2021) entitled "The impact of organizational change on the performance of workers in tax departments in Palestine", This study aimed to know the relationship between organizational change and the performance of employees in the Palestinian tax departments. The data

were statistically processed using. Program Smart PLS3 the study found a positive correlation between organizational change and the tool of workers in tax departments, and one of the most important recommendations is to increase attention to human resources in tax departments.

Jardaneh study, (2019) entitled " Investigating the Effective of Using Credit Analysis Techniques to Bridge Credit Risk: Empirical Evidence from the Banking Sector", This study aimed to test the effectiveness of using credit analysis tools to bridge credit risks from the reality of Palestinian banks. The descriptive analytical method was relied upon, and the questionnaire was used as a tool for data collection, which was distributed to the 248 credit employees of the local Palestinian banks. The researcher used the Statistical Package for Social Sciences (SPSS) program to analyze the data. One of the most important results of the study: that Palestinian banks adopt the use of credit analysis tools, and one of the most important recommendations is the need for integration in qualitative and quantitative credit analysis tools.

2.2.1 Remarks on the previous study

The previous study examined the limitations of applying artificial intelligence in general. What distinguishes this study is that it will address the constraints of the application of artificial intelligence in the Palestinian income tax services and this subject has not been addressed before, the results of this study will be the beginning of subsequent studies on the subject and a catalyst for the Palestinian income tax services to use artificial intelligence in their work.

Chapter Three

Method And Procedure

Chapter Three

Study Methodology

3.1 Chapter Overview

This chapter includes a presentation of the method and procedures that were followed in determining the study population and its sample, the steps to verify the validity and stability of the tool, the identification of study variables and procedures, and the statistical treatments used in data analysis, as follows:

3.2 Study Approach

For the purposes of this study, the researcher used the descriptive analytical method for its relevance to the nature of the study. This method is defined as "a method of studying phenomena or scientific problems by carrying out their functions in a scientific way, and then arriving at logical explanations that have evidence and proofs according to specific frameworks for the problem."

3.3 Study Community

The study community knows that all individuals or elements related to the problem of the study, which the study seeks to generalize its results to, and thus the community in this study is the employees of the income tax departments in Palestine, numbering (115) employees, (general manager, department manager, department head and an assessment officer), distributed among the governorates of the West Bank, according to the records of the Palestinian tax departments. The questionnaire was distributed to them, of which 100 questionnaires were returned and 4

questionnaires were excluded, thus bringing the number of questionnaires valid for analysis to 96.

And Table No. (3) shows the demographic characteristics of the study community

Table (3): The demographic characteristics of the study population

Variable	Variable Categories	Number	Percentage%
Qualification	Diploma	8	8.3
	Bachelor's	71	74.0
	Master's	17	17.7
	PhD	0	0
	Total	96	100.0
Specialization	Information Technology	4	4.2
	Computer Engineering	6	6.3
	Economics and Management Sciences	58	60.4
	Other	28	29.2
	Total	96	100.0
Job Title	Director general	2	2.1
	Director of the Department	14	14.6
	Head of the Department	36	37.5
	Appreciation officer	44	45.8
	Total	96	100.0
Years of Experience	Less than 5 years	28	29.2
	From 5-10 years	13	13.5
	From 11-15 years	6	6.3
	More than 15 years	49	51.0
	Total	96	100.0
Artificial intelligence training courses	No courses	46	47.9
	From one to two courses	17	17.7
	More than two sessions	33	34.4
	Total	96	100.0

Table No. (3) shows that the majority of the responses were from the category of bachelor's degree holders, where their percentage reached (74%), and it was found that (60.4%) of them were majoring in economics and administrative sciences, and that the largest percentage of them had a job title as tax officer, as this percentage amounted to (45.8%) The

percentage of more than 15 years of experience reached (51%), and it was found that the vast majority of them did not attend courses in the field of artificial intelligence, as the percentage of this category was (47.9%) of the total sample of the study. The researcher believes that the reason for this is the lack of interest in the concept of artificial intelligence, or the scarcity of specialists in this field who are qualified to give training courses.

3.4 Study Tool

Through reviewing the theoretical literature and previous local, Arab and foreign studies, a questionnaire was developed to be the main study tool for collecting its data. Its design took into account the Palestinian privacy, with the aim of identifying the obstacles to the application of artificial intelligence in the Palestinian income tax departments. The questionnaire consisted of two parts:

The first section: It consists of the personal and professional data of the sample members, consisting of:

Qualification: It has four levels

Specialization: It has four levels

Job title: It has four levels

Years of experience: up to four levels

Training courses in the field of artificial intelligence: It has three levels.

The second section: the questionnaire's (39) paragraphs related to the obstacles to the application of artificial intelligence in the Palestinian income tax departments. These paragraphs were divided into five areas. Table (2) shows the areas of the questionnaire and the number of paragraphs for each field:

Table (4): Resolution areas and number of paragraphs

No. Domain	Axis	Number of paragraphs
1.	**Administrative constraints**	10
2.	**Technical constraints**	10
3.	**Human constraints**	4
4.	**Financial constraints**	4
5.	**Mechanisms to overcome obstacles to the application of artificial intelligence**	11
Total Paragraph Tool		**39**

The answer key to the paragraphs of this section is designed on the basis of the five-dimensional Likert scale, as shown below:

Classification Too high (5) High (4) Medium (3) Low (2) Very low (1)

3.5 Authenticity of the tool

After the initial development of the study tool, the number of paragraphs of the study measures obstacles to the application of artificial intelligence in Palestinian income tax services. Paragraph 28. Mechanisms for overcoming obstacles to the application of artificial intelligence (11) A paragraph where it was finalized (39) was submitted to a group of arbitrators with expertise and competence in Palestinian universities and the income tax services. The arbitrators were asked to express an opinion on the resolution paragraphs in order to ascertain the clarity and sincerity of the content of the paragraphs, their relevance to the objectives, areas and variables of the study, and were asked to indicate the validity of what had been developed to measure it, and they obtained their approval by their degree. (85%), with some modifications to its paragraphs, where some paragraphs have been changed, others have been added and some paragraphs have been deleted, and in the light of the observations made by the expert arbitrators in terms of: After discussion of the proposals, the view of the majority of the proposals was taken into account in the arbitration process, the number of paragraphs (49) after all amendments had been made, thereby achieving the

sincerity of the content and apparent honesty of the resolution, and the final form of the study tool became available for distribution.

3.6 Tool Stability

The stability of the study tool was confirmed by the use of the Cronbach Alpha equation and table (5) showing the persistence coefficients of the study tool and its fields.

Table (5):Persistence coefficients of axes and areas of resolution and total grade

No. Domain	Axis	Constant parameter
1.	**Administrative constraints**	0.90
2.	**Technical constraints**	0.88
3.	**Human constraints**	0.82
4.	**Financial constraints**	0.93
Total degree		0.95
Mechanisms to overcome obstacles to the application of artificial intelligence		0.96

Table (5)' shows that the constant coefficients of the resolution axes were good as they were on the first field. It was on the second field (0.88) and it was on the third field (0.90). The fourth area was 0.82 and the constant factor for the total degree of handicap was 0.93. (0.95) While the persistence of the field of mechanisms for overcoming obstacles to the application of artificial intelligence, all such stability factors are high and meet the purposes of this study, their results can be disseminated with credibility.

3.7 Study Procedures

The study was conducted in accordance with the following steps:

1. Selecting the study problem and preparing its blueprint.

2. Determining the study community by guiding the Human Resources

Section of the Income Tax Services

3. Selection of sample members using the available sample.

4. Preparation of the study tool in its initial form.

5. Offer the tool to the arbitrators for final release.

6. Distribution of the tool to the sample of income tax officers, analysis being done on the 96 identifications.

7. Introduce and statistically process the responses of sample members using the Social Sciences Statistical Packet Program (SPSS).

8. Extract, analyses and discuss results, compare them with previous studies, and propose recommendations based on findings.

3.8 Study Variables

The study included the following variables:

First: Independent variables:

1. Scientific qualification: It has four levels (B.A., MA, PhD).

2. Specialization: It has four categories: (Information Technology, Computer Engineering, Economics and Management Sciences, others).

3. Functional title: It has four levels (Director-General, Director of Service, Chief of Section, Chief of Assessment).

4. Years of experience: It has four levels (under 5 years, from 5 to 10 years, from 11 to 15 years, over 15 years).

5. Training courses in artificial intelligence have three categories: (No courses, from one to two, more than two).

Second: Dependent variable: Obstacles to the application of artificial intelligence in Palestinian income tax services.

3.9 Statistical Processors

After obtaining the responses to the sample members, they were encoded and entered into the computer, and the data were statistically processed

using the Social Sciences Statistical Packet Program (SPPS), using the following statistical treatments:

• iterations, percentages, arithmetic averages, and standard deviations to estimate the relative weight of resolution paragraphs.

• One Way ANOVA analysis in testing hypotheses for all variables.

• The Cronbach Alpha equation calculates resolution stability.

Chapter Four

Results of the study

Chapter Four

Results of the study

4.1 Chapter Overview

After the process of collecting the data and entering it into the computer, it was processed statistically using the Statistical Package for Social Sciences (SPSS) program.

In order to interpret the results, the following indicators were adopted for the arithmetic averages, as shown in Table No. (6).

Table (6): Key to Interpreting Arithmetic Averages

Arithmetic Average	Description of satisfaction
4.2 and above	Very High
(3.4 _ less than 4.2)	Hight
(2.6 _ less than 3.4)	Middle
(1.8 _ less than 2.6)	Low
(Less than 1.8)	Very Low

The following is a presentation of the study results:

4.1.1 The results related to the study questions

This study was able to answer a set of questions, and the following are the answers to the study about them, which represent the opinions of the study sample on the obstacles to the application of artificial intelligence in the Palestinian income tax departments

The main question: What are the obstacles to the application of artificial intelligence in the Palestinian income tax departments?

In order to answer this question, the arithmetic averages and standard deviations of the obstacles to the application of artificial intelligence in the

Palestinian income tax departments were extracted in its four fields (administrative obstacles, technical obstacles, human obstacles, financial obstacles), which included their responses for sub-paragraphs totaling 29 and includes table No. (7) The results of that are as follows:

Table (7): Obstacles to the application of artificial intelligence in the Palestinian income tax departments in their various fields

Domain	Arithmetic Average	Standard Deviation	Disabled Grade
Financial Obstacles	4.0469	0.91213	High
human obstacles	3.8646	0.84208	High
Technical Obstacles	3.8573	0.71932	High
Administrative Obstacles	3.7219	0.71601	High
Total	3.8427	0.65470	High

Below are the details of the results of the study related to its sub-questions represented in the aspects included in the questionnaire, as it turns out that the degree of obstacles to the application of artificial intelligence in the Palestinian income tax departments in its various fields was generally high and was also high in all fields, and this indicates the existence of a large gap in The application of artificial intelligence in the income tax departments, where the four obstacles were close and their degrees were high, as the most obstacle with regard to the application of artificial intelligence in the Palestinian income tax departments was the financial one.

The first sub-question: What is the degree of administrative obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments?

To answer this question, the arithmetic averages and standard deviations of

the degree of administrative obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments were extracted, and Table (8) shows this.

Table (8): Arithmetic averages and standard deviations of the degree of administrative obstacles that prevent the application of artificial intelligence in Palestinian income tax departments

No.	Rank	Paragraphs	Arithmetic Average	standard deviation	Disabled Grade
1.	4	Existing organizational structures do not comply with the requirements of electronic management.	3.91	0.859	High
2.	3	Routine at work delays the transition to electronic management.	3.85	1.086	High
3.	10	Lack of strategic plans for the transition to electronic management.	3.83	1.023	High
4.	5	The job description in the income tax departments needs to be reviewed and developed in line with the electronic administration.	3.80	0.902	High
5.	1	Unavailability of plans to convert to the application of electronic management.	3.80	1.032	High
6.	8	The weakness of the administrative and organizational structure affects the development of electronic administration in the income tax departments.	3.76	0.778	High
7.	2	Central in the work of the income tax departments.	3.67	1.073	High
8.	9	Lack of clarity in the future vision of the application of electronic management.	3.60	0.946	High
9.	7	Routine at work prevents the transition to electronic management.	3.55	0.972	High
10.	6	Administrative procedures do not help the transition to electronic administration in the income tax departments.	3.44	1.003	Medium
Total Degree			3.7219	0.71601	High

It is clear from Table (8) that the degree of administrative obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments was large, and the arithmetic averages on them ranged between (3.91-3.44). The faculty of administrative obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments came with an arithmetic mean (3.72) and a standard deviation (0.71), and this confirms that the degree of administrative obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments was medium, and the results show that the most important administrative obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments were that there is no compatibility in the existing organizational structures with the requirements of electronic management, and that there is a routine at work that delays the transition process towards electronic management., as well as the absence of strategic plans To shift towards electronic management, and job descriptions in income tax departments need to be reviewed and developed in line with electronic management, in addition to the lack of plans for the transition to the application of electronic management.

The second question: What is the degree of technical obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments?

To answer this question, the arithmetic averages and standard deviations were extracted, and Table (9) shows this.

Table (9): Arithmetic averages and standard deviations of the degree of technical obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments

No.	Rank	Paragraphs	Arithmetic Average	standard deviation	Disabled Grade
1.	6	Failure to take into account the design of offices and halls equipped in the Palestinian income tax departments to suit electronic management techniques.	4.19	0.786	High
2.	1	Weakness of the infrastructure necessary for the application of electronic management.	4.18	0.808	High
3.	7	Poor internet service in the income tax departments.	4.06	0.904	High
4.	3	Lack of advanced and modern equipment.	4.04	0.917	High
5.	2	Not enough databases.	3.82	0.973	High
6.	5	Lack of tracking of development in computer technologies.	3.81	0.966	High
7.	8	Rapid change in information technology and the difficulty of keeping pace.	3.77	1.090	High
8.	9	The availability of new software in Arabic that is suitable for the work of the income tax departments.	3.75	1.086	High
9.	4	Poor maintenance and follow-up of computers.	3.65	1.076	High
10.	10	Most of the programs available in tax departments are not localized.	3.30	1.415	Medium
Total Degree			3.8573	.719320	High

Table (9) shows that the degree of technical impediments to the application of artificial intelligence in Palestinian income tax services was significant, with computational averages ranging from between. (4.19-3.30) It is notable that the highest paragraph was large and the lowest paragraph was average. This confirms that the degree of technical impediments to the application of artificial intelligence in Palestinian income tax services has been significant, and shows that the main technical impediments to the

application of artificial intelligence in Palestinian income tax services have been the failure to take into account the design of offices and halls equipped in Palestinian income tax services in line with e-management techniques, as well as poor infrastructure for the application of e-governance, poor Internet service in income tax services, lack of sophisticated and up-to-date devices, and inadequate databases.

The third question: What is the degree of human obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments?

To answer this question, the arithmetic averages and standard deviations were extracted, and Table (10) shows this.

Table (10): Arithmetic averages and standard deviations of the degree of human obstacles that prevent the application of artificial intelligence in Palestinian income tax departments

No.	Rank	Paragraphs	Arithmetic Average	standard deviation	Disabled Grade
1.	1	Lack of knowledge of electronic management techniques.	4.04	0.893	High
2.	4	Failure to qualify and train employees to use electronic technologies.	3.90	1.081	High
3.	3	Weakness in the English language among some employees.	3.86	1.032	High
4.	2	The small number of employees specialized in operating and maintaining computers.	3.66	1.141	High
Total Degree			3.86	0.842	High

It is clear from Table (10) that the degree of human obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments was large, as the arithmetic averages on them ranged between (4.04-3.66). The degree of human obstacles that prevent the application of

artificial intelligence in the Palestinian income tax departments has come with an arithmetic mean (3.86) and a standard deviation (0.84), and this confirms that the degree of human obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments was great,It was found that the most important human obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments were the lack of knowledge of electronic management techniques, and then the lack of qualification and training of employees to use electronic technologies, and the weakness of the English language among some employees, as well as the small number of employees specialized in operating and maintenance of computers.

Fourth question: What is the degree of financial obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments?

In order to answer this question, the arithmetic means and standard deviations were extracted, and the table (11) shows that:

Table (11): Arithmetic averages and standard deviations of the degree of financial obstacles that prevent the application of artificial intelligence in Palestinian income tax departments

No.	Rank	Paragraphs	Arithmetic Average	standard deviation	Disabled Grade
1.	4	Weak budget allocated to modernizing and developing electronic devices and programs.	4.20	0.829	Very High
2.	3	Lack of financial allocations for the purchase and development of software.	4.03	0.945	High
3.	1	Lack of financial capabilities necessary for the application of electronic management.	4.02	1.026	High
4.	2	The rise in the price of electronic software.	3.94	1.159	High
Total Degree			4.046	.9120	High

It is clear from Table (11) that the degree of financial obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments was large, as the arithmetic averages on them ranged between (4.20-3.94). It is noted that the highest paragraph was very large and the lowest was a large degree. The overall degree of the degree of financial obstacles that prevents the application of artificial intelligence in the Palestinian income tax departments came with an arithmetic mean (4.06) and a standard deviation (0.91) this confirms that the degree of financial obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments was great, and it was found that the most important financial obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments were the weakness of the budget allocated to modernizing and developing electronic devices and programs, and from Then the lack of financial allocations for the purchase and development of software, and the lack of financial capabilities necessary for the application of electronic management.

The fifth question: What are the most prominent mechanisms through which the obstacles to the application of artificial intelligence in the Palestinian income tax departments can be overcome?

To answer this question, the arithmetic means and standard deviations were extracted, and the table (12) shows that:

Table (12): Arithmetic averages and standard deviations of the most prominent mechanisms through which to overcome obstacles to the application of artificial intelligence in Palestinian income tax departments

No.	Rank	Paragraphs	Arithmetic Average	standard deviation	Disabled Grade
1.	11	Keeping up with the purchase of the latest electronic devices and technologies.	4.16	0.838	High
2.	10	Interest in purchasing the latest electronic devices and technologies.	4.06	0.927	High
3.	8	Training employees to use modern and advanced technologies.	4.02	0.973	High
4.	1	Senior management support for the application of electronic management.	4.00	0.883	High
5.	7	Intensify localization efforts for computerized programs and applications.	4.00	0.858	High
6.	9	Provide adequate material support for the application of electronic management.	3.97	0.923	High
7.	2	Increasing awareness of the concept of electronic management and its importance.	3.93	0.885	High
8.	3	Training employees to deal with electronic management applications.	3.91	0.952	High
9.	4	Building a unified information base at the level of income tax departments that is accurate and comprehensive.	3.89	0.869	High
10.	6	Use of information security technologies.	3.86	0.947	High
11.	5	Develop strategic plans for cooperation and coordination between the different departments in the income tax departments.	3.76	0.949	High

Table (12) shows the most prominent mechanisms through which the obstacles to the application of artificial intelligence in the Palestinian income tax departments can be overcome, as they were ranked in descending order. The Palestinian income was as follows:

1. Keeping up with the purchase of the latest electronic devices and technologies.
2. Interest in purchasing the latest electronic devices and technologies.
3. Training employees to use modern and advanced technologies
4. Senior management support for the application of electronic management.
5. Intensify localization efforts for computerized programs and applications.

The fifth question: Are there statistically significant differences between the average responses of the study sample members about the obstacles to applying artificial intelligence in the Palestinian income tax departments due to its variables (educational qualification, specialization, job title, years of experience)?

To answer this question, this question was transformed into hypotheses and were as follows:

4.1.2The results related to the hypotheses of the study

The third hypothesis: There are no statistically significant differences at the significance level ($\alpha \geq 0.05$) between the average responses of the study sample members towards the obstacles to applying artificial intelligence in the Palestinian income tax departments due to the educational qualification variable.

To test the hypothesis, the researcher used One Way ANOVA for the samples, and the results were as shown in the following two tables (13, 14):

Table (13): Arithmetic averages between the average responses of the study sample members towards the obstacles to the application of artificial intelligence in the Palestinian income tax departments due to the educational qualification variable

Domains	Variable	Number	Arithmetic Average	Standard Deviation
Administrative Obstacles	Diploma	8	4.4250	0.41662
	Bachelor's	71	3.6493	0.68845
	Master's	17	3.6941	0.78936
	PhD	96	3.7219	0.71601
	Total Summation	8	4.4000	0.32950
Technical Obstacles	Diploma	71	3.8197	0.71547
	Bachelor's	17	3.7588	0.78824
	Master's	96	3.8573	0.71932
	PhD	8	3.3750	0.95431
	Total Summation	71	3.9014	0.72393
Human Obstacles	Diploma	17	3.9412	1.17769
	Bachelor's	96	3.8646	0.84208
	Master's	8	4.1250	1.32961
	PhD	71	4.1338	0.75691
	Total Summation	17	3.6471	1.20565
Financial Obstacles	Diploma	96	4.0469	0.91213
	Bachelor's	8	4.2500	0.33318
	Master's	71	3.8193	0.61415
	PhD	17	3.7485	0.86686
	Total Summation	96	3.8427	0.65470
Total marks	Diploma	8	4.4250	0.41662
	Bachelor's	71	3.6493	0.68845
	Master's	17	3.6941	0.78936
	PhD	96	3.7219	0.71601
	Total Summation	8	4.4000	0.32950

It is evident from Table (13) that there are differences in the arithmetic averages of the categories of educational qualification levels, where the highest arithmetic averages were in favor of the diploma and the lowest for the bachelor's, To verify whether the differences in the arithmetic averages have reached the level of statistical significance, the researcher used the One Way ANOVA, and Table (12) illustrates this.

Table (14): Results of the One-Way ANOVA to indicate the differences between the average responses of the study sample members towards the obstacles to applying artificial intelligence in the Palestinian income tax departments due to the educational qualification variable

Domain	Contrast Source	Total Squares	Degrees of Freedom	Average squares	Value (F)	Signal Level
Administrative Obstacles	Squares between Categories	4.342	2	2.171	4.551	0.013
	Inner Squares	44.362	93	.477		
	Total Summation	48.704	95			
Technical Obstacles	Squares between Categories	2.621	2	1.311	2.619	0.078
	Inner Squares	46.534	93	.500		
	Total Summation	49.155	95			
Human Obstacles	Squares between Categories	2.114	2	1.057	1.506	0.227
	Inner Squares	65.251	93	.702		
	Total Summation	67.365	95			
Financial Obstacles	Squares between Categories	3.303	2	1.651	2.028	0.137
	Inner Squares	75.736	93	.814		
	Total Summation	79.039	95			
Total marks	Squares between Categories	1.517	2	.758	1.799	0.171
	Inner Squares	39.203	93	.422		
	Total Summation	40.720	95			

Table (14) shows that there are no statistically significant differences at the significance level ($\alpha \geq 0.05$) between the average responses of the study sample members towards the obstacles to applying artificial intelligence in the Palestinian income tax departments. The domains are higher than the value specified in the hypothesis, and the value of the significance level of the total score is (0.17) and this value is higher than the value specified in the hypothesis, and for this reason, the hypothesis related to the educational qualification variable was not rejected.

Fourth hypothesis: There are no statistically significant differences at the significance level ($\alpha \geq 0.05$) between the average responses of the study

sample members towards the obstacles to applying artificial intelligence in Palestinian income tax departments due to the job title variable.

To test this hypothesis, the researcher used a one-way analysis of variance (ANOVA) for the samples, and the results were as shown in the following two tables (15, 16):

Table (15): Arithmetic averages between the average responses of the study sample members towards the obstacles to applying artificial intelligence in the Palestinian income tax departments due to the job title variable

Domains	Variable	Number	Arithmetic Average	Standard Deviation
Administrative Obstacles	Director general	2	3.9000	.00000
	Director of the Department	14	3.9714	.54692
	Head of the Department	36	3.6917	.86400
	Appreciation Officer	44	3.6591	.63879
	Total Summation	96	3.7219	.71601
Technical Obstacles	Director general	2	4.0000	.00000
	Director of the Department	14	3.9857	.48016
	Head of the Department	36	3.8361	.83603
	Appreciation Officer	44	3.8273	.70492
	Total Summation	96	3.8573	.71932
Human Obstacles	Director general	2	4.0000	.00000
	Director of the Department	14	4.3929	.47752
	Head of the Department	36	3.8472	1.01994
	Appreciation Officer	44	3.7045	.72991
	Total Summation	96	3.8646	.84208
Financial Obstacles	Director general	2	2.0000	.00000
	Director of the Department	14	3.7857	1.10007
	Head of the Department	36	4.2083	.93063
	Appreciation Officer	44	4.0909	.72555
	Total Summation	96	4.0469	.91213
Total marks	Director general	2	3.7241	.00000
	Director of the Department	14	4.0099	.57374
	Head of the Department	36	3.8429	.81407
	Appreciation Officer	44	3.7947	.54400
	Total Summation	96	3.8427	.65470

It is clear from table (15) that there are differences in the arithmetic averages of the functional name level categories, with the highest and least arithmetic averages for the Director of the Service and the Director-General. In order to ascertain whether the differences in the arithmetic

averages reached the level of statistical connotation, the researcher used the One-Way ANOVA analysis, and table (10) shows this.

Table (16): Results of the One-Way ANOVA analysis of the significance of the differences between the average responses of the study sample members towards impediments to the application of artificial intelligence in Palestinian income tax services due to the so-called functional variable

Domain	Contrast Source	Total Squares	Degrees of Freedom	Average squares	Value (F)	Signal Level
Administrative Obstacles	**Squares between Categories**	1.142	3	.381	.736	.533
	Inner Squares	47.562	92	.517		
	Total Summation	48.704	95			
Technical Obstacles	**Squares between Categories**	.327	3	.109	.206	.892
	Inner Squares	48.827	92	.531		
	Total Summation	49.155	95			
Human Obstacles	**Squares between Categories**	5.081	3	1.694	2.502	.064
	Inner Squares	62.283	92	.677		
	Total Summation	67.365	95			
Financial Obstacles	**Squares between Categories**	10.358	3	3.453	4.625	.005
	Inner Squares	68.681	92	.747		
	Total Summation	79.039	95			
Total marks	**Squares between Categories**	.521	3	.174	.397	.755
	Inner Squares	40.199	92	.437		
	Total Summation	40.720	95			

*Statistically significant at the significance level ($0.05 \geq \alpha$)

Table (16) shows that there are statistically significant differences at the significance level (α≥ 0.05) between the average responses of the study sample members towards the obstacles to applying artificial intelligence in the Palestinian income tax departments due to the job title variable. The significance level for all domains is higher than the value specified in the hypothesis, and the value of the significance level for the total degree is (0.75) and this value is less than the value specified in the hypothesis and for this reason the hypothesis related to the job title variable was not accepted.

The fifth hypothesis: There are no statistically significant differences at the level of significance (α≥ 0.05) between the average responses of the study sample members to the obstacles to applying artificial intelligence in the Palestinian income tax departments due to the specialization variable.

To test this hypothesis, the researcher used the One-Way ANOVA for the samples, and the results were as shown in the following two tables (18, 19):

Table (17): Arithmetic averages between the average responses of the study sample members to the obstacles to the application of artificial intelligence in the Palestinian income tax departments due to the variable of specialization

Domains	Variable	Number	Arithmetic Average	Standard Deviation
Administrative Obstacles	Information Technology	4	4.6000	.00000
	Computer Engineering	6	4.2000	.61968
	economics and management sciences	58	3.8276	.70631
	Other	28	3.2750	.53238
	Total Summation	96	3.7219	.71601
Technical Obstacles	Information Technology	4	4.5000	.00000
	Computer Engineering	6	3.8000	.92952
	economics and management sciences	58	3.8931	.79336
	Other	28	3.7036	.49252
	Total Summation	96	3.8573	.71932
Human Obstacles	Information Technology	4	5.0000	.00000
	Computer Engineering	6	3.8333	.90370
	economics and management sciences	58	3.8578	.94371
	Other	28	3.7232	.50157
	Total Summation	96	3.8646	.84208
Financial Obstacles	Information Technology	4	5.0000	.00000
	Computer Engineering	6	4.1667	.64550
	economics and management sciences	58	4.1724	.93448
	Other	28	3.6250	.80651
	Total Summation	96	4.0469	.91213
Total marks	Information Technology	4	4.6897	.00000
	Computer Engineering	6	4.0115	.76569
	economics and management sciences	58	3.9156	.68422
	Other	28	3.5345	.43441
	Total Summation	96	3.8427	.65470

It is clear from Table (17) that there are differences in the arithmetic averages of the categories of levels of specialization, where the highest arithmetic averages were in favor of information technology, and the lowest for others. Way ANOVA), and Table (18) illustrates this.

Table (18): Results of One-Way ANOVA to indicate the differences between the average responses of the study sample members to the obstacles to applying artificial intelligence in Palestinian income tax departments due to the job title variable

Domain	Contrast Source	Total Squares	Degrees of Freedom	Average squares	Value (F)	Signal Level
Administrative Obstacles	**Squares between Categories**	10.696	3	3.565	8.630	.000
	Inner Squares	38.008	92	.413		
	Total Summation	48.704	95			
Technical Obstacles	**Squares between Categories**	2.408	3	.803	1.580	.200
	Inner Squares	46.747	92	.508		
	Total Summation	49.155	95			
Human Obstacles	**Squares between Categories**	5.725	3	1.908	2.848	.042
	Inner Squares	61.640	92	.670		
	Total Summation	67.365	95			
Financial Obstacles	**Squares between Categories**	9.617	3	3.206	4.248	.007
	Inner Squares	69.422	92	.755		
	Total Summation	79.039	95			
Total marks	**Squares between Categories**	6.008	3	2.003	5.308	.002
	Inner Squares	34.712	92	.377		
	Total Summation	40.720	95			

*Statistically significant at the significance level ($0.05 \geq \alpha$)

Table (18) shows that there are statistically significant differences at the significance level (α≥ 0.05) between the average responses of the study sample members towards the obstacles to applying artificial intelligence in the Palestinian income tax departments due to the job title variable. The significance level for all domains and the total degree is greater than the value specified in the hypothesis, and the value of the significance level for the total degree is (0.002) and this value is less than the value specified in the hypothesis and for this reason the hypothesis related to the job variable was not rejected.

The sixth hypothesis: There are no statistically significant differences at the level of significance (α≥ 0.05) between the average responses of the study sample members towards the obstacles to applying artificial intelligence in Palestinian income tax departments due to the variable years of experience.

To test the hypothesis, the researcher used One Way ANOVA for the samples, and the results were as shown in the following two tables (19, 20):

Table (19): Arithmetic averages between the average responses of the study sample members towards the obstacles to applying artificial intelligence in the Palestinian income tax departments due to the variable years of experience

Domains	Variable	Number	Arithmetic Average	Standard Deviation
Administrative Obstacles	Less than 5 years	28	3.4071	.60549
	From 5-10 years	13	3.6615	.23288
	From 11-15 years	6	4.1333	.72296
	More than 15 years	49	3.8673	.79932
	Total Summation	96	3.7219	.71601
Technical Obstacles	Less than 5 years	28	3.5929	.75959
	From 5-10 years	13	3.8538	.45573
	From 11-15 years	6	4.2000	.46476
	More than 15 years	49	3.9673	.74649
	Total Summation	96	3.8573	.71932
Human Obstacles	Less than 5 years	28	3.6607	.51467
	From 5-10 years	13	3.9423	.76481
	From 11-15 years	6	4.7500	.38730
	More than 15 years	49	3.8520	.98414
	Total Summation	96	3.8646	.84208
Financial Obstacles	Less than 5 years	28	3.6786	.84123
	From 5-10 years	13	4.7692	.36029
	From 11-15 years	6	4.5833	.64550
	More than 15 years	49	4.0000	.95607
	Total Summation	96	4.0469	.91213
Total marks	Less than 5 years	28	3.5616	.53196
	From 5-10 years	13	3.9416	.32298
	From 11-15 years	6	4.3218	.56982
	More than 15 years	49	3.9184	.73889
	Total Summation	96	3.8427	.65470

It is clear from Table (19) that there are differences in the arithmetic averages for the categories of years of experience, where the highest arithmetic averages were in favor of 11-15 years and the lowest for less than 5 levels. To verify whether the differences in the arithmetic averages have reached the level of statistical significance, the researcher used One Way ANOVA, and Table (18) illustrates this.

Table (20): Results of One-Way ANOVA to indicate the differences between the average responses of the study sample members to the obstacles to applying artificial intelligence in Palestinian income tax departments due to the variable years of experience

Domain	Contrast Source	Total Squares	Degrees of Freedom	Average squares	Value (F)	Signal Level
Administrative Obstacles	**Squares between Categories**	4.874	3	1.625	3.410	.021
	Inner Squares	43.830	92	.476		
	Total Summation	48.704	95			
Technical Obstacles	**Squares between Categories**	3.256	3	1.085	2.176	.096
	Inner Squares	45.899	92	.499		
	Total Summation	49.155	95			
Human Obstacles	**Squares between Categories**	5.954	3	1.985	2.973	.036
	Inner Squares	61.411	92	.668		
	Total Summation	67.365	95			
Financial Obstacles	**Squares between Categories**	12.416	3	4.139	5.715	.001
	Inner Squares	66.623	92	.724		
	Total Summation	79.039	95			
Total marks	**Squares between Categories**	3.998	3	1.333	3.339	.023
	Inner Squares	36.722	92	.399		
	Total Summation	40.720	95			

*Statistically significant at the significance level ($0.05 \geq \alpha$)

Table (20) shows that there are statistically significant differences at the significance level ($\alpha \geq 0.05$) between the average responses of the study sample members towards the obstacles to applying artificial intelligence in the Palestinian income tax departments due to the variable years of experience, where the value of The significance level for all fields and the total degree is less than the value specified in the hypothesis, and the value of the significance level for the total degree was (0.02) and this value is less than the value specified in the hypothesis and for this reason the hypothesis related to the years of experience variable was rejected.

Chapter Five

Results, Conclusion And Recommendations

Chapter Five

Results, Conclusion And Recommendations

5.1 Results

In light of the statistical analysis and the study of the literature on the subject, the following results were reached:

1. The organizational structures applied in the Palestinian income tax departments do not comply with the requirements of electronic administration.
2. The Palestinian income tax departments are still suffering from red tape at work, which made the transition process towards electronic administration slow, and no strategic plans have been developed to address this.
3. The lack of space for the offices of Palestinian income tax employees and the weakness of the infrastructure necessary for the transition to the application of electronic administration.
4. Weakness of sufficient knowledge of Palestinian income tax officials in electronic administration applications.
5. Lack of interest and keeping pace with the purchase of modern equipment and electronic management techniques.
6. There is coordination between the different income tax departments
7. Using a computer program with limited capabilities

5.2 Recommendations

In light of the results that have been reached, the researcher recommends the following:

1. The need to restructure the Palestinian income tax departments in line with technical developments and workload.
2. Develop strategic plans to move towards the application of artificial intelligence away from routine at work.
3. The necessity of preparing infrastructure for advanced programming uses, with the availability of spaces and offices that facilitate this.
4. Holding specialized courses in the field of artificial intelligence to qualify employees in conjunction with holding English language enhancement programs.
5. Allocate sufficient funds to purchase modern devices and technologies that help in the application of electronic management.
6. Increasing coordination between the various income tax departments with the latest and fastest technology, as well as linking the work of the Palestinian income tax departments with all governmental and non-governmental institutions, as well as taxpayers in the private sector, through the application of artificial intelligence.
7. The necessity of keeping pace with the development in computerized programs and modern technologies.

5.3 Conclusion

In light of the field visits and interviews made by the researcher in the Palestinian income tax departments, reviewing the regulations and instructions of the Palestinian Ministry of Finance related to the work of the income tax departments, studying the relevant literature and reading it for the results of the statistical analysis, she reached the following conclusions:

1. The Palestinian income tax departments suffer from administrative, financial, technical and human obstacles in the application of artificial intelligence.
2. Despite the shift from the application of the Cham program to the Bisan program, this is not sufficient for the shift towards the application of artificial intelligence.
3. There is a desire among the Palestinian income tax employees to apply artificial intelligence, but they suffer from weak specialization, especially software, and weakness in the English language.
4. Lack of interest in holding courses for old employees in the field of artificial intelligence and weakness of new employees in the practical use of software related to artificial intelligence.

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PPENDIX NO. (1) QUESTIONNAIRE

An-Najah National University

Faculty of Graduate Studies

Tax Disputes Program

Questionnaire

DearMr./ Ms..... employee of the Income Tax Department

Regards,

The researcher is conducting a scientific study to obtain a master's degree entitled Obstacles to the application of artificial intelligence in the Palestinian income tax departments. Therefore, we kindly ask you to answer the questions of the questionnaire objectively, which will be for scientific research purposes only.

Yours sincerely,

Researcher

Zaynah Tareq Alhaj

Part One: General Information

Please put a circle around the answer that suits you:

Qualification:

a- Diploma b- Bachelor's c- Master'sd- Doctorate

Specialization:

a- Information Technology b- Computer Engineering
c- Economics and Administrative Sciences d- Other

Job title:

a- General Manager b- Department Manager c- Head of Department
d- Estimation Officer

Years of Experience:

a- Less than 5 years b- From 5-10 years c- From 11-15 years

d- More than 15 years

Artificial Intelligence Training Courses:

a - No Courses b - From one to 2 courses c - More than two courses

Part two: Kindly indicate (√) to the appropriate answer:

The First Axis: The most important administrative obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments.

No.	Ferries	Totally Agree	Agree	Somewhat Agree	Disagree	Strongly Disagree
1.	Unavailability of plans to switch to the application of electronic management.					
2.	Centralization in the work of the income tax departments.					
3.	Routine at work delays the transition to electronic management.					
4.	Existing organizational structures do not comply with the requirements of electronic management.					
5.	The job description in the income tax departments needs to be reviewed and developed in line with the electronic administration.					
6.	Administrative procedures do not help the transition to electronic management in tax departments.					
7.	Routine at work prevents the transition to electronic management.					
8.	The weakness of the administrative and organizational structure affects the development of electronic management in tax departments.					
9.	Lack of clarity in the future vision of the application of electronic management.					

10.	Lack of strategic plans for the transition to electronic management.					

Other obstacles you would like to add, please mention them:……
……

The Second Axis: The most important technical obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments.

No.	Ferries	Totally Agree	Agree	Somewhat Agree	Disagree	Strongly Disagree
1.	Weakness of the infrastructure necessary for the application of electronic management.					
2.	Not enough databases.					
3.	Lack of advanced and modern equipment.					
4.	Poor maintenance and follow-up of computers.					
5.	Lack of tracking of development in computer technologies.					
6.	Failure to take into account the design of offices and halls equipped in the Palestinian income tax departments to suit electronic management techniques.					
7.	Poor internet service in the income tax departments.					
8.	Rapid change in information technology and the difficulty of keeping pace.					

9.	The availability of new software in Arabic that is suitable for the work of the income tax departments.					
10.	Most of the programs available in tax departments are not localized.					

Other obstacles you would like to add, please mention them:……
……

The Third Axis: The most important human obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments.

No.	Ferries	Totally Agree	Agree	Somewhat Agree	Disagree	Strongly Disagree
1.	Lack of knowledge of electronic management techniques.					
2.	The small number of employees specialized in operating and maintaining computers.					
3.	Weakness in the English language among some employees.					
4.	Failure to qualify and train employees to use electronic technologies.					

Other obstacles you would like to add, please mention them:……
……
……

The Fourth Axis: The most important financial obstacles that prevent the application of artificial intelligence in the Palestinian income tax departments.

No.	Ferries	Totally Agree	Agree	Somewhat Agree	Disagree	Strongly Disagree
1.	Lack of financial capabilities necessary for the application of electronic management.					
2.	The rise in the price of electronic software.					
3.	Lack of financial allocations for the purchase and development of software.					
4.	Weak budget allocated to modernizing and developing electronic devices and programs.					

Other obstacles you would like to add, please mention them:……
……

The Fifth Axis: The most prominent mechanisms through which the obstacles to the application of artificial intelligence in the Palestinian income tax departments can be overcome.

No.	Ferries	Totally Agree	Agree	Somewhat Agree	Disagree	Strongly Disagree
1.	Senior management support for the application of electronic management.					
2.	Increasing awareness of the concept of electronic management and its importance.					
3.	Training employees to deal with electronic management applications.					

4.	Building a unified information base at the level of income tax departments that is accurate and comprehensive.					
5.	Develop strategic plans for cooperation and coordination between the different departments in the income tax departments.					
6.	Use of information security technologies.					
7.	Intensifying localization efforts for computerized programs and applications.					
8.	Training employees to use modern and advanced technologies.					
9.	Provide adequate material support for the application of electronic management.					
10.	Interest in purchasing the latest electronic devices and technologies.					
11.	Keeping up with the purchase of the latest electronic devices and technologies.					

Other mechanisms that it proposes to overcome the obstacles of electronic administration in the income tax departments:

……

……

Thank for your help,

APPENDIX NO. (2) QUESTIONNAIRE REFEREES

#	Name	Qualifications
1.	Dr. Saher Alshoumale	Business Administration Palestine Technical University – Kadoorie
2.	Dr. Mohammed Abu Amsha	Finance and Banking Palestine Technical University – Kadoorie
3.	Dr. Muhammad Sharqa	Administrative law An-Najah National University
4.	Dr. Jamel Alawni	Finance and Banking Al- Quds Open University
5.	Dr. Abdelfatah Alshamli	Public Administration An-Najah National University

جامعة النجاح الوطنية

كلية الدراسات العليا

معوقات تطبيق الذكاء الاصطناعي في دوائر ضريبة الدخل الفلسطينية

إعداد

زينة طارق أسعد الحاج

إشراف

د. مفيد الظاهر

د. معاذ الأسمر

قدمت هذه الأطروحة استكمالاً لمتطلبات الحصول على درجة الماجستير في المنازعات الضريبية بكلية الدراسات العليا في جامعة النجاح الوطنية، نابلس، فلسطين.

2021

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زينة طارق أسعد الحاج

إشراف

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د. معاذ الأسمر

الملخص

هدفت هذه الدراسة التعرف الى معوقات تطبيق الذكاء الاصطناعي في دوائر ضريبة الدخل الفلسطينية المتمثلة في المعيقات الإدارية، المعيقات التقنية، المعيقات البشرية و المعيقات المالية واليات التغلب على هذه المعيقات. ولتحقيق هذا الهدف استخدمت الباحثة الى جانب المصادر الأولية، الاستبانة كأداة لجمع المعلومات والتي تكونت الى جانب المتغيرات الديموغرافية أربع مجالات (المجال الإداري، المجال التقني، المجال البشري و المجال المالي) بحيث احتوى كل مجال على مجموعة من الأسئلة، وذلك للإجابة على أسئلة وفرضيات الدراسة.

تم توزيع الاستبانة على مجتمع الدراسة المكون من 115 موظف في دوائر ضريبة الدخل الفلسطينية في الضفة الغربية.

تم تحليل البيانات إحصائيا باستخدام برنامج SPSS وذلك باستخدام المعالجات الإحصائية المتمثلة فيالتكرارات والنسب المئوية والمتوسطات الحسابية، الانحرافات المعيارية لتقدير الوزن النسبي لفقرات الاستبانة وتحليل التباين الأحادي (One Way ANOVA) في اختبار الفرضيات المتعلقة بكافة المتغيرات ومعادلة كرونباخ ألفا (Cronbach Alpha) لحساب ثبات الاستبانة.

من أهم النتائج التي تم التوصل إليها ان تطبيق الذكاء الاصطناعي في دوائر ضريبة الدخل الفلسطينية سببه المعوقات المالية، البشرية، التقنية و الإدارية مجتمعه على الترتيب وان اهم عائق

مالي تمثل في ضعف الميزانية المخصصة لتحديث وتطوير الأجهزة والبرامج الالكترونية واهم عائق بشري تمثل في نقص المعرفة بتقنيات الادارة الالكترونية واهم عائق تقني تمثل في عدم مراعاة تصميم المكاتب والقاعات المجهزة في دوائر ضريبة الدخل الفلسطينية لتتناسب مع تقنيات الادارة الالكترونية واهم عائق إداري تمثل في لا تتوافق الهياكل التنظيمية القائمة مع متطلبات الادارة الالكترونية. وعلى ضوء ذلك من أهم ما أوصت به الباحثة تخصيص الأموال الكافية لشراء أجهزة حديثة وتقنيات تساعد في تطبيق الادارة الالكترونية و عقد دورات متخصصة في مجال الذكاء الاصطناعي لتأهيل الموظفين بالتزامن مع عقد برامج تقوية في اللغة الانجليزية و ضرورة تجهيز بنى تحتية لاستخدامات البرمجة المتطورة مع توفر مساحات ومكاتب تسهل ذلك و ضرورة إعادة هيكلة دوائر ضريبة الدخل الفلسطينية بما يتلاءم مع التطورات التقنية وحجم العمل.