The impact of artificial intelligence on cloud accounting

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Abstract
The research aims to study the possibility of artificial intelligence affecting cloud accounting and how to develop cloud accounting through artificial intelligence and whether this effect is reflected positively or negatively on cloud accounting, which the British Encyclopedia defined as Encyclopedia Britannica on Line. It defined the term cloud accounting as a method of activating application software and storing related data in central computer systems and providing access to customers or users via the Internet. As for artificial intelligence, it is an attempt to make the machine able to think like a human being by developing complex systems.

Keywords: Intelligence, Artificial Intelligence, Cloud Accounting, Costs, Information.

Introduction

The research dealt with artificial intelligence and its importance at the present time, especially since we are in the field of rapid electronic progress that is rapidly increasing, and how it affects cloud accounting, which is considered an excellent qualitative leap in the field of accounting in terms of saving effort, time and costs and reducing errors. The first research dealt with the research methodology, the second research dealt with artificial intelligence in terms of definition, objectives, characteristics and components that consist of 3 layers, and the third research dealt with cloud accounting in terms of definition, characteristics and types (private, public, hybrid), its benefits and the most important programs used in it.

The first topic: Research methodology

First: Research problem

Artificial intelligence currently represents an integral part of most governmental and civil institutions, whether in the field of education, finance, health or accounting in general and the cloud in particular, and it will become more important in the future. The rapid change in the business environment requires institutions to quickly adapt to these changes. The research problem lies in

What is the impact of artificial intelligence on cloud accounting

This question branches into the following questions:

1- What is the level of use of artificial intelligence in cloud accounting?

2- How does the use of artificial intelligence affect cloud accounting?

Second: Research objectives:-

Through this research, we seek to achieve a set of objectives, the most important of which are:

1- Shedding light on the importance of artificial intelligence in developing cloud accounting work.

2- Cloud accounting as a new model for managing artificial intelligence.

3- Clarifying the impact of using artificial intelligence on cloud accounting.

Third: The importance of the research:

The importance of this research stems from the fact that it is an attempt through which the researcher seeks to review the impact of artificial intelligence on cloud accounting and whether artificial intelligence seeks to develop cloud accounting accurately.

The second topic: Artificial Intelligence

Artificial intelligence is an important part of our daily and practical lives nowadays, as it is relied upon in many fields.

First: Knowing artificial intelligence:

1- The machine's ability to perform cognitive functions, represented by perception, learning, interaction, and reasoning.

2- It is an attempt to make the machine able to think like a human by developing complex systems.

3- It is a subfield of computer science that involves creating intelligent devices and programs that work and interact like humans.

4- The ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings

Second: Objectives of Artificial Intelligence:

1- Finding new ways to extract information

2- Developing the necessary methods to build, create and maintain information

3- Enabling machines to process information in a way closer to the way humans do

4- Finding advanced ways to translate needs into programs that can be implemented

Third - Characteristics of Artificial Intelligence:

The characteristics of artificial intelligence are essential in understanding how intelligent systems work, and their interaction with the environment and humans, as the term "artificial intelligence" refers to the ability to design systems and technologies that exhibit behavior that can be interpreted as human intelligence. In this element, we will discuss some of the main characteristics of artificial intelligence:

1- Applications of artificial intelligence on devices and machines enable them to analyze problems

2- Applications of artificial intelligence on devices and machines enable them to recognize sounds and speech and the ability to move objects

-3- The ability of some devices adopting artificial intelligence to understand and analyze inputs to provide outputs that efficiently meet the user's needs

4- Artificial intelligence applications enable continuous learning; where the learning process is automatic and self-sufficient without being subject to monitoring and supervision

In addition to the above, some other characteristics can be mentioned, which are:

1- Learning and understanding from previous experiences and expertise

2- Using old experiences and employing them in new situations

3- Using trial and error to explore different matters

Fourth: Components of the AI application architecture

The AI architecture consists of three basic layers. All layers operate on the IT infrastructure to provide the computing and memory resources needed for AI.

Layer 1: Data Layer

AI relies on different technologies such as machine learning, natural language processing, and image recognition. Data is at the heart of these technologies and forms the foundational layer of AI. This layer mainly focuses on preparing data for AI applications

Layer 2: Model Layer

Current AI primarily uses foundation models and large language models to perform complex digital tasks. Foundation models are deep learning models trained on a wide range of generalized, unlabeled data. Based on input prompts, they can perform a wide range of diverse tasks with a high degree of accuracy. Organizations take existing pre-trained foundation models and customize them with internal data to add AI capabilities to existing applications or create new AI applications. It is important to note that many organizations continue to use machine learning models for many digital tasks. Machine learning models can outperform foundation models for many use cases, and AI developers can flexibly choose the best models for specific tasks. Read more about foundation models

The third: layer is the application layer

This is the customer-facing part of the AI architecture. You can ask AI systems to complete specific tasks, generate information, provide information, or make data-driven decisions. The application layer allows end users to interact with AI system

The third topic: Cloud Accounting

The term Cloud Accounting has been translated into English as Cloud Computing, which is divided into two words: the first is "computing," because it is related to the field of computers, and the second is "cloud," which is an expression used to refer to the Internet.

First: Cloud accounting is defined

1- It is the transfer of the processing process from the user's device to server devices via the Internet and saving the user's files in it so that he can access them from anywhere or any device

2- The National Institute of Technology ((NIST))) defined it as a model for enabling permanent and convenient access to the network and sharing a group of accounting resources (for example, networks, storage servers, applications and services) that can be provided and issued quickly using minimal management effort or service provider interaction

3- As for the Encyclopedia Britannica On Line, it defined the term cloud accounting as a method of activating application software and storing data related to it in central computer systems and providing access to customers or users via the Internet.

Second: The unique characteristics of cloud accounting

Many researchers agree on the basic characteristics that distinguish cloud accounting, and the most important of these characteristics are as follows

1- Self-services on demand: Cloud accounting works to provide the ability to access, request and receive the services that users want at any time and anywhere without any intervention from anyone or technical support, and all this process is done automatically upon request.

2- Broad network access: Cloud accounting has the ability to provide network access, through the client's basic systems, which are often heterogeneous, whether these systems are physical or operating systems.

3- Independent sites for aggregating resources: Cloud accounting provides a huge set of programs and applications - as a service despite the heterogeneity of operating systems and without the client's knowledge and experience.

4- Flexibility and speed: Cloud accounting provides superior capabilities of speed and flexibility, and on a wide and broad scale where - it can be used and when needed.

5- Measured service: Cloud accounting operates with self-control and monitoring systems, and thus performance can be monitored and controlled to achieve the best possible use of technological resources. In addition, it is useful in providing information in the appropriate form and time.

Third: Types of Cloud Accounting

There are three types of cloud accounting:

1- (Private Cloud: Private Cloud Computing is an infrastructure that is rented by a single client and operates on its own account under its full control over data, security, and quality of service.

2- Public Cloud Computing: It is an infrastructure that provides accounting resources dynamically over the Internet to multiple clients, and the applications of different clients are usually mixed together on cloud servers.

3- Hybrid Cloud Computing: It combines multiple public and private cloud models. Hybrid clouds expose the complex process of determining how to distribute applications across both private and public clouds

Fourth: Benefits of Cloud Accounting

Some researchers indicate that cloud accounting services can be used in several ways, as follows

A- Accessibility: Cloud accounting helps users access data from anywhere with an Internet connection, and it also facilitates the process of sharing data among themselves. In addition, the entire work team around the world can access data from anywhere and without any obstacles.

B- Lower costs: With the cloud-based system, companies no longer need to purchase expensive software or servers and install them on their computers, and there is no great need for IT staff, which will reduce their fees and help avoid the installation fees of this technology entirely. Not only that, but with the use of the cloud accounting system, data and information can be stored at a lower cost.

C- Multiple users: Traditional accounting methods are usually limited to a small number of users, and therefore it is very difficult for them to use them at the same time, while cloud accounting allows a large number of users to access the same data at the same time.

D- Continuously updating data: One of the most common problems in traditional accounting systems is their inability to update accounting data. If we want to make a specific modification to one of the numbers in the accounting books, such as the general ledger, the change must be made everywhere that number appears. In cloud accounting, as soon as any new data is entered, that data is automatically updated in all accounting books. E- Security of financial data and information: Although many believe that storing data on the desktop will make it safe, this may not be achieved, especially in the long term,

as that data may be lost due to the theft of the company's computers or the entry of some viruses into them, with the inability to retrieve that data. However, if the financial data is stored on the Internet, there is no significant risk of losing it even if it is erased from the desktop or hard disk. F- Automatic backup and recovery of data: The cloud service provider can help in the process of recovering data and restoring operations as quickly as possible, thus reducing the amount of damage that the company may be exposed to.

Fifth: Cloud accounting programs:-

The most important cloud accounting programs are the following:-

A- Freash Books program: The program contains a flexible payment management system capable of settling accounts with more than one payment method such as Visa, MasterCard, American Express cards, as well as the ability to quickly create profit and loss reports, and the ability to accurately calculate the salaries of company employees by entering the number of actual working hours, in addition to the feature of tracking invoices sent to customers and knowing when the customer views the invoice.

B- NetSuite EPR program: It helps financial management improve the efficiency of the accounting process, get rid of manual reports, and the ability to make proactive decisions, which leads to improving the company's productivity, the ability to reduce the time to prepare and audit reports, the ability to monitor inventory and manage warehouses, and store financial data in a single database, which makes it easier for financial management to access the company's performance metrics and determine each employee's use of the program according to his job duties.

C - Sage 50 cloud program: The program performs an integrated management process for the company's expenses and revenues, tracks purchases, records invoices required for payment, records sales and receipts due for collection, transfers amounts due, records collected amounts, settles bank accounts, saves data in the cloud storage system, provides a backup copy of data that can be retrieved in the event of loss of the copy stored on computers, as well as the ability to automatically calculate taxes due, issue invoices and prepare accounting reports electronically. D - Acountedge pro program: enables financial management employees to manage bank accounts, track revenues and expenses, create sales invoices and write checks, prepare the company's bank deposits, settle bank accounts and track financial information related to the company's employees, customers, vendors and suppliers, and prepare financial statements such as income and expense statements.

The four topic:- The relationship between artificial intelligence and cloud accounting

when AI is programmed, it can sense changes in its environment and react like natural intelligence. Accordingly, AI, like humans, can also cease working, and all that is needed is for a natural or man-made disaster to occur . opined that anything created by a human is susceptible to errors. Consequent to this, the total replacement of human by machines might not be a reality, for it takes only a natural disaster or human conspiratorial steps for the intelligence of machines to be disrupted . The advancement in technology, therefore, has developed into machines that are being used for different operations in organisations. the major technologies include Expert Systems (ES), Neural Network

(NN), Robots (RB), Fuzzy Logic (FL), Genetic Algorithm (GA), Natural Language Processing (NLP), and Intelligent Agents (IA(

1-Expert Systems (ES)

ES are computer programs that simulate the manner of an expert in a diverse field. The scholars believed that they detect rationality forms, which may decide a specialist based on it and patterned in the way humans make decisions. ES are AI programs adopted in the 1980s that attain a level of expertise, with the capability of replacing human speciality in decision making. Accordingly, knowledge engineering is the process of building an expert system, which must ensure that the design has all the knowledge needed to solve a problem; otherwise, the decisions might not be dependable .

2-Neural Network (NN)

These are electronic models of the structure of the human brain neural . In this tool, the devices of teachings and learning are primarily on experience, but the electronic models rely on the same pattern and models, which deals with different computational methods that are mostly adopted by computer systems . Studies revealed that NN is an important aspect of AI, which is of interest due to its ability to perform the functions of the human brain however, argued further that the process model as data storage and analysis of the model form the basis of modern computing and that the field from computational knowledge does not use any traditional programming methods

3-Robots (RB)

that AI and automation are technologies that will simultaneously move into jobs that have been in the domain of human labour while continuing to consolidate its dominance in routine jobs. The importance of a robot as a tool of AI became more noticeable in the middle of Covid-19 in the United Kingdom. The robots were utilised to deliver food items to people at their homes and assisted nurses at the Infection Prevention and Control in Mater Hospital, Ireland . Starship Technologies, a delivery company of 2014initiated this robotic idea . The robots are the size of beer coolers, travel on six wheels and have provided food to nearly 200,000 people without the need for human interaction . This presupposes that other functions of the accounts department through a transfer of relevant files among staff could also be handled by a robotic process.   robots are able to sense their environment, move around, and power themselves smartly through the utilisation of sensors

4-Fuzzy Logic (FL)

 This theory by Professor Lotfi Zadeh was to develop a more efficient models to describe natural language procession. The most important aspect of the application of FL is the provision of structure of intelligent beings' decision making, especially human intelligence. Due to its human reasoning and decision making, this tool of AI is, thus, seen as a solution to complex problems in all fields of life .

5-Genetic Algorithm (GA)

These are algorithms with immense power to find answers to problems, and it gives the possibility of having rapid movement in problem space towards the target area. It is also believed that GA is a robust search method of AI that requires little information to search effectively in a large or poorly understood search space. According to the scholars, it requires double elements – encoding of candidate structures

and method of evaluating the relatives. performance of candidate structure for identifying the better solution.

6-Natural Language Processing (NLP)
NLP imitates natural human languages that can be applied to understand and process recommendations and statements using conversation mostly utilised for daily activities. This branch of IA thus requires the understanding of the natural language to process and to communicate effectively
7-Intelligent Agents (IA)
argued that this is one of the main solutions to the issues concerning information overload as a result of the development in a fully networked business environment. The scholars further opined that the IA software application travels across the internet and other known infrastructure at its own discretion, which could reach suppliers gateway and able to access suppliers' information in databases and other storage media.

Conclusions& Recommendations

-1Conclusions
1-The use of smart technologies (artificial intelligence) in the field of accounting is still in its infancy despite the possibilities provided by artificial intelligence.
1-The adoption of cloud computing provides many opportunities for all institutions, regardless of their size or shape;

-2Recommendations
1- The necessity of preparing a strategic plan to apply artificial intelligence in the field of cloud accounting to benefit from it in improving the level of accounting performance
1- Institutions of all kinds must be keen to adopt cloud computing in the process of developing and restructuring their electronic
3- The necessity of conducting many studies that support and serve the use of artificial intelligence in cloud accounting

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