

Artificial Intelligence Effects on Accounting: A Review

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Abstract - Artificial intelligence is significantly influencing the whole economy, with impacts ranging from major to significant. The increased use of artificial intelligence in the accounting sector has sparked debates on the future of accounting firms. This article explores the core principles of artificial intelligence in accounting and examines many possible applications of these principles. This research aims to analyse the perspectives of several reviewers to assess the impact of artificial intelligence (AI) on the accounting industry. Significant data processing and analysis skills will be essential to fulfil the demands of the future corporate environment. Utilising artificial intelligence to improve the skills of professionals like accountants is advisable. This study aims to assess the pros and cons associated with the use of artificial intelligence (AI) in the accounting sector. Although artificial intelligence will not fully substitute accountants, the study's results indicate that it will affect the obligations accountants are tasked with. To ensure people have the greatest chances for success, they must have certain technical skills. This article explores the significant influence of artificial intelligence (AI) on the accounting industry and how it may enhance competitiveness in the job market due to heightened rivalry.

Keywords: Artificial Intelligence, Accounting, Auditing, Technology.

Introduction - One primary goal of artificial intelligence in accounting is to minimise repetitive processes and manage large amounts of data. Artificial intelligence is now being used across all areas and will continue in doing so. Artificial intelligence enables robots to acquire knowledge from past encounters, adapt to new information, and function in a manner like to humans. Artificial intelligence might enhance several roles within the business sector. Computers may be taught to do certain tasks by analysing extensive data and identifying patterns using advanced technology. This training may facilitate the completion of certain tasks. It improves speed, accuracy, and decision-making. Financial data and reports may be readily available and securely stored. Users may efficiently access and update information, automate tedious operations, save accountants' time, and access comprehensive records using cloud-based technologies, machine learning (ML), and blockchain. The fourth Industrial Revolution is now underway and will result in substantial changes in company operations, accounting, and reporting methods. It is crucial to modernise the accounting process by using the most up-to-date technologies. Artificial intelligence will transform the accounting process, resulting in an unparalleled shift. Zhao et al. (2004) said that expert systems in accounting improve the accessibility of accounting education and training. In the future, all organisations will need artificial intelligence-based accounting systems to be competitive

in the market. Traditional accounting, reporting, financing, and auditing systems will be stopped. As a result, significant concerns exist over job displacement and the outdated nature of existing software and technology. The expense associated with deploying AI is also a significant consideration. There is also a need for professionals skilled in handling such technologies at the same time. Artificial intelligence significantly influences work environments in the long term. This will result in a significant restructuring of the accounting and finance system. The research has discussed the effects of artificial intelligence (AI) on accounting and its many subfields.

Review of Literature

Makridakis (2017) examined the state of current and future artificial intelligence (AI) research as well as the possibility of robots achieving true intelligence. Major theories and possibilities of how AI can transform human existence were highlighted in the research. The transformation of the field and profession of accounting and auditing is one of the many ways artificial intelligence (AI) may change the human environment.

According to Accenture Consulting (2017), the majority of customers would rather have both artificial intelligence and human experts to provide interpretations of the findings and identify areas in which the firm would be underperforming.

Makridakis (2017) is a research that is highly fascinating

since it provides an overview of the predictions that the same author made in 1995 for the year 2015 on the digital (information) revolution that was going to occur at the time. In spite of the fact that some of the forecasts were not accurate, a lot of them ended up being accurate. As a result of the digital revolution, we are currently seeing the broad deployment of technical tools and solutions in organisations across a wide range of sectors. A number of the information and communication technology (ICT) technologies that are used in contemporary businesses are of a non-cognitive character, while others have a cognitive component.

Chukwuani and Egiyi (2020) investigated the influence that artificial intelligence has had in the area of accounting. by doing so, they demonstrated the degree of progress that is being made in the accounting business with regard to the automation of the accounting process. In conclusion, they discussed the role that accountants play in the current automation and the ways in which accountants working in the 21st century may adjust to the rising prevalence of automation in the profession.

Chukwuani & Egiyi (2020) looked at how AI is affecting the accounting sector. They provided an illustration of the progress being made in the automation of the accounting process in the accounting business. They discussed how accountants fit into the current automation environment and how they may adjust as the sector becomes more automated.

Artificial intelligence (AI) and big data technologies' challenges and possible future directions in the domains of business, research, education, and policymaking were covered by **Luan et al. (2020)**. They contend that effective collaboration between academics, policymakers, and professionals from various fields is necessary to fully realise the potential of artificial intelligence and data advancement. This cooperation will enable them to effectively address the challenges and innovations posed by the big data and artificial intelligence revolution. Their collective lack of experience, competence, and abilities is the biggest problem; yet, it is imperative that they adopt a collaborative approach.

Pradip Kumar Das's (2021) work Artificial intelligence offers the accounting profession and accountants a chance for advancement rather than a hindrance. Accountants will still be needed, but they will have to closely monitor artificial intelligence to enhance their skills and transition from traditional accountants to high-level accounting professionals with managerial capabilities. This might result in the termination of employment for certain accountants.

Helen N. Kem, Emetaram, Ezenwa, Uchitel, (2021) Accountants should see AI as a helpful tool to enhance customer services, rather than fearing it will replace their professions and livelihoods. Accountants may anticipate a prosperous and enduring career with the appropriate education and skills.

Objective of the Study : The research aims to examine

the influence of artificial intelligence on accounting procedures.

Research Question : The research topic explores the influence of artificial intelligence on the accounting function and overall corporate success.

Methodology : The research is descriptive and based on an analysis of literature and public secondary sources. The research relies only on secondary data sources such as internet and academic databases, including literature reviews, empirical investigations, websites, books, journals, and reports.

Results and Discussion : Applications of artificial intelligence and its many applications the capacity of technology, particularly computer systems, to mimic human cognitive processes is known as artificial intelligence. Among the specific uses of AI are machine vision, voice recognition, natural language processing, expert systems, and others. Machine learning algorithms are created and taught using a mix of specialist hardware and software. Artificial intelligence requires this mix. The Workings of Artificial Intelligence Finding connections and patterns via extensive data analysis enables the utilization of these patterns to predict future circumstances. Cognitive abilities like creativity, self-correction, reasoning, and learning are given priority in artificial intelligence development.

Artificial intelligence technology is present practically everywhere in the society of today. In the business and corporate sectors, artificial intelligence technologies will be widely used. Artificial intelligence applications in marketing, media, e-commerce, and entertainment provide pattern-based analysis of customer decisions and behaviors. Numerous companies are attempting to strengthen their bonds with their clientele, including Netflix and Amazon. By examining data and looking for algorithmic trends, AI systems are being employed in the financial sector to make trading decisions. These decisions are made more quickly and on a larger scale than is feasible for people.

When used in the fields of accounting, auditing, and finance, artificial intelligence has a significant influence on the environment in which businesses operate. The loss of employment and the elimination of small businesses that are unable to buy technology based on artificial intelligence is a problem that is particularly prevalent in India.

Providing information to the relevant user in the most suitable and adaptable manner for the purpose of making economic choices both internally and externally is the primary objective of accounting. The development of artificial intelligence is a revolutionary advancement that has the potential to enable the accounting profession to execute and make strategic choices more effectively than in the past.

A tedious and time-consuming procedure, the acquisition of unstructured data is a method that must be used. With the help of artificial intelligence, the procurement procedure may be carried out without the usage of paper.

There will be no difficulty in collecting monthly cash flows by using an AI-powered system on a monthly or quarterly basis. Annual accounts should also be complied with using AI, with specific attention paid to the sort of company being discussed. Internal auditing and the financial management team will both benefit from the use of artificial intelligence. By using the AI software, massive amounts of data may be analysed in a methodical manner, which will result in a fifty percent reduction in their burden.

Focus Areas of Applications of Artificial Intelligence in Accounting and Auditing: According to a review of the literature, the following are the primary areas where AI is being used in the accounting and auditing fields:

1. Expert Systems (ES): The subset of a knowledge-based system that incorporates the knowledge and experience of an expert into the system's knowledge base is known as such. Expert systems are used in the field of financial accounting for the purpose of constructing financial statements and accounting information systems, as well as for the processing of invoices and entries, the evaluation of standards, the development of worksheets, and other related tasks. In addition, ES may be used in auditing and inventory control systems simultaneously.

2. Continuous Auditing: According to Zhao et al. (2004), there is a growing emphasis on the need of real-time financial information, a lack of norms and procedures, significant technological obstacles, paperless accounting information systems, and timely audit reports as factors that are associated with continuous auditing.

3. Decision Support System (DSS): It is a computer-based system that is interactive, flexible, and dynamic, and it is beneficial in the process of decision making. A wide variety of unstructured accounting, auditing, and management functions are examples of situations in which DSS is used.

4. Deep Learning & Machine Learning: The objective of this computer system is to mimic human intellect and learning to accomplish a job. Machine learning is a field that falls under artificial intelligence and computer science. It involves using data and algorithms to imitate human learning processes, with the goal of enhancing the model's precision over time, as stated by IBM.com.

5. Natural Language Processing (NLP): According to Deloitte (2018), it is a branch of research that focuses on training artificial models to comprehend and process human speech. According to Chukwudi et al. (2018), it is a technological tool that takes use of artificial intelligence and focuses on the reproduction of human natural language and communication techniques.

6. Robotic Process Automation (RPA): A rule-based and standardized set of duties is carried out by it. In order to do rule-based, repetitive, high-volume processes, robots may be taught or programmed to perform certain tasks. Artificial intelligence is driven by data, but robotic process automation (RPA) is driven by processes.

7. Emergence of Block Chain Technology: According to Zhang et al. 2020, Block Chain Technology enables the transfer of any value (including data, assets, currency, and information) in real time in a manner that is both safe and cost-effective. Accounting and auditing professionals will find it very helpful since it will provide them with usable data for corporate reporting, analysis of population data rather than sample data, data for audit design, and other similar purposes.

In addition to this, the technologies known as "Genetic Algorithm" and "Hybrid System" are examples of examples of technologies that are useful for the automation and progress of the accounting and auditing process itself.

Possible Benefits of AI Implementation:

1. AI will eliminate the time-consuming, repetitive processes carried out by the conventional accounting system.
2. There will be a lower chance of financial fraud. Accounting staff merely previews the extensive accounting and other tasks that computer software must do. Through data analysis, AI can handle accounting, manage registers, and generate financial statements with much more accuracy and relevance.
3. A corporation may raise the calibre of accounting data by using AI-based software. In conventional accounting, accounting staff need a lot of labour and money to verify different vouchers, accounting books, statements, etc. resulting from extended effort, weariness, and blunders that skew accounting data. However, AI will carry out such tasks accurately and efficiently.
4. Industry can improve customer services and increase productivity by using AI in a variety of sectors.
5. It may help save time and labour, which can then be put to better use on more complex and valuable tasks.

Risk aspects of AI implementation:

1. When an organization is subject to more artificial intelligence surveillance, there may be a conflict of interest and a risk to the external auditor's independence.
2. The development of artificial intelligence has created a danger that traditional occupations and functions would become extinct. Massive unemployment will therefore result. The need for accounting staff will decrease with widespread AI deployment. Current employees confront the dilemma of elimination.
3. Laws, standards, and accounting regulations may change from time to time. At the current level of AI application intelligence, an AI system cannot update itself to reflect changes in laws, rules, and policies. Frequent modifications might thus hinder the process.
4. Using AI-based technologies comes at a considerable expense. It is sometimes not acceptable to many organizations.
5. AI-based accounting systems need specialized

knowledge and training. In our nation, there is resistance among accountants and auditors to use technology effectively.

Effects of implementation of AI in accounting : Based on what has been discussed thus far, it is very evident that every organization ought to unquestionably adopt AI. The introduction of such disruptive technology invariably results in the appearance of some problems. In order to solve these issues, there are many different approaches. A number of ethical problems have been raised about the implementation of AI. There are certain professionals who are unable to agree with the elimination of the existing system. For regulations pertaining to cyber security, there are a great deal of questions. There is a possibility that new methods of perpetrating fraud will emerge. Consequently, the design of new regulations pertaining to cyber security, data protection, and artificial intelligence, as well as the application of these laws, are vital. In order to standardize the use of cognitive technologies, it would be necessary to formulate various policies at both the national and informational levels. The application of artificial intelligence is related with the fear of unemployment. There is a possibility that in the future there will be other types of professional hybrids; no one will be affiliated with a permanent position; instead, the opinions of freelancers will be employed. As a result, attention will be diverted away from compliance with the organization and obligations regarding human resources. The World Economic Forum (WEF) has published a number of publications that make predictions about the influence that artificial intelligence will have on occupations all around the world. Automation brought about by the use of artificial intelligence will lead to an increase of 58 million employment, of which two-thirds will be at the highly skilled level. The field of accounting has seen the introduction of a variety of different types of automation almost every day. The conventional paper-based accounting system was replaced by a computerized accounting system. A number of significant changes have been brought about in the work process as a result of the introduction of EDI technology and various accounting software. At the outset, there was apprehension regarding the loss of jobs; nevertheless, in the long run, it will create opportunities for new employment. During the early stages of bookkeeping, for instance, there was a significant shift in the nature of software accounting jobs. Although many people were concerned that the introduction of Intuit in 1983 and Microsoft Excel in 1985 would lead to the disappearance of human bookkeepers, this was not the case. However, over the course of a decade, the field experienced a growth of 75%. It is the goal of artificial intelligence to replace manual jobs and remove the strain of repetition. The person who keeps the books will no longer have a job. On the other hand, their job arrangement will be altered, and they will be required to make use of their other skills that were before underutilized. "Bookkeepers"

or artificial intelligence software designed specifically for bookkeeping chores can do certain functions, such as entry creation, approval flow, store records, auditing, and tax services. Virtual accounting services, which include bookkeeping performed by artificial intelligence, are not only a threat but also an opportunity. The majority of contemporary accounting and finance firms already make use of some sort of artificial intelligence accounting software, such as Quickbook, Oracle, Freshbook, Zohobook, and a great deal of other options.

The deployment of artificial intelligence technology has been utilised by a number of accounting companies, including Ernst & Young, Pricewaterhouse Coopers, and Deloitte Touché Tohmatsu Limited.

Conclusion : The emergence of artificial intelligence in accounting presents the accounting industry and accountants with an opportunity rather than a challenge. Accountants ought to be enthusiastic about artificial intelligence technology, they ought to enhance their knowledge of it, and they ought to get the most out of it. To ensure that pupils are able to acquire knowledge of the latest technologies, educationalists should enhance and update their curriculum. It is necessary for the organization to implement sufficient training and skill development techniques in order for these to be compatible with the workforce that is currently in place. For the purpose of providing cyber security, the government is going to work on developing new rules, regulations, and policies. Since this is the case, there ought to be a distinct path for development with the assistance of contemporary technology.

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