

Artificial Intelligence: It's Impact on Accounting- A Review Work

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Abstract

Artificial intelligence has great impact in every spheres of economy. The increasing role of artificial intelligence in the field of accounting has raised the question about the future of the profession. The basic idea and various field of application of AI in accounting, has been discussed here. In this study the opinion of various reviewers are analyzed and a comparison is made to get the impact of AI in accounting profession. In future business world vast data processing and its interpretation is required. Implementation of AI is obligatory and Accountants and professionals need to develop their skills. In this study discussion have been made on requirement of AI in accounting profession through analyzing its merits and demerits. In conclusion the study suggests that AI will not replace accountant but their profession will be changed in nature. They need to develop some Technological skills. It focuses that there is significant impact on accounting profession and adapting the change arises due to implementation of AI, this profession may glorify the competitive job market.

Key Words: Artificial Intelligence, Accounting, Auditing, Technology

Introduction

The main theme of artificial intelligence in accounting is to reduce repetitive work and handling big data. In Modern era AI has been implemented and going to implement in every sphere of activities. AI makes it possible for machines to learn from experience, adjust to new inputs and perform human like tasks. In business field also there are many activities where AI can be implemented. Using modern technology computers can be trained to accomplish specific task by processing large amounts of data and recognizing patterns in the data .It helps to improve in speed, rate of accuracy and better decision making. Financial reports and records can be accessed easily and stored safely. The use of Cloud based Technology, Machine Learning (ML), Block Chain enable user to have immediate access and frequent updatability, automate tedious tasks, saving accountants' hours, access fine records. Since the fourth Industrial Revolution is upon us, it will transform the industry and also the mode of accounting and reporting. Accounting process have to be modernized by using latest technology. Introduction of AI will transform the process of accounting and made evolutionary change which did not happen before .The growth of industry 4.0 shows exponential trends of machine generated information and its ability to process that information at lightning speed to improve the quality of accounting information. Use of Chatbot made users handling information more quickly and conveniently. Expert systems in accounting facilitate accounting education and training (Zhao et al.2004). Traditional system of accounting ,reporting, financing and auditing will no longer exist and all business have to accept AI based accounting technology in near future to exist in the market. In this context there arises great fears of loss of job and obsolescence of existing equipment and software. The cost of implementation of AI also arises. The need for efficient personnel to handle those technologies arise also. The introduction of AI in business environment has great impact in the long run. It will revolutionize the system of accounting and finance. In this study discussion has been made about the impact of AI in accounting and its various fields.

Literature Review

Accountants would make decisions based on often outdated figures but with the automation of data processes always up to- the-minute information enable better- grounded decision affecting the business performance.(Alex et.al.,2014)

More and more automation and Technological advancement would displace human in their work by 2025.(Alex et.al.,2014)

A research study by the University of Oxford in 2015 reveals that Accountants have a 95% chance of becoming unemployed as machines assume the role of data Analytics and number crunching(Greenman 2017).

With the progress of Technology some jobs are eliminated while others are created (Greenman 2017).

According to Accenture Consulting, (2017),. Most clients prefer to have both Artificial Intelligence and human expert to recommend interpretation of the results and where business will be under performing.

Chukwuani & Egiyi (2020) examined the impact of artificial intelligence on accounting industry. They showed the level of advancement taking place in the accounting industry in automating the accounting process. Finally they outlined the accountants place in the modern automation and how the accountant of the 21st century can adapt to the wide spread automation in the industry.

Luan et.al.,(2020) talked about the challenges and directions of AI technology and big data in education ,research, policy making and industry. Their argument is that in reaction to the innovation and dilemmas brought forth by the AI and big data revolution academia, policy makers and professionals from variety of discipline must engage in effectual collaboration to fully actualize the potential of the AI and the data advancement. Their collaborative approach is essential, but major problem is lack of vision of the part of the group and lack of knowledge and skill also.

Emergence of AI is an opportunity not a challenge for the accounting industry and accountants. It may trigger few accountants job loss; but eventually it will not oust accountants requiring accounting personnel to have a good eye on AI to gradatim invigorate their sheer dexterity and to transform from traditional accounting personnel to management type, high-end accounting personnel (Pradip Kumar Das, 2021).

Rather than give into worry about AI taking over their positions and jobs, accountants should learn to embrace this technology as an important tool (solution) to enhance customer services. With the right training and skills, accountants are assured of a lucrative and sustainable career that will last well into the future (Emetaram, Ezenwa, Uchitel, Helen N Kem,2021).

Objective of the Study

The objective of the study is to discuss the impact of artificial intelligence on the accounting operations.

Research Question

The Research question raised on what impact does artificial intelligence has in the accounting function and overall business performance.

Methodology

The study is descriptive in nature and conducted through study of various literature and published secondary data .Thus the study purely adopts secondary data source through internet and academic database like literature reviews, empirical studies, website, books, journal, reports etc.

Results and Discussion**Artificial Intelligence and its applications:**

Artificial intelligence is the simulation of human intelligence processes by machines especially computer systems. Specific applications of artificial intelligence include expert system, Natural Language Processing, speech recognition and machine vision. Artificial intelligence requires combination of specialized

hardware and software for writing and training machine learning algorithm. Artificial intelligence Works By analyzing large amount of data find the correlation and patterns and using this patterns to make predictions about future States. AI programming focuses on cognitive skills that include learning, reasoning, self-correction, creativity.

In today's world we observe artificial intelligence Technology everywhere. In commercial and business field AI Technology will be implemented extensively. In marketing media ecommerce and entertainment AI is used to analyze customers' choices and behaviors following the pattern. Various companies like Netflix, Amazon facilitate greater customer relations. In investment field also AI system makes trading decisions through data analyzing and algorithmic pattern at greater magnitude and speed than human capabilities.

The implementation of AI in the field of accounting, auditing, and finance have great impact in business environment. Especially in India there is a threat of loss of jobs and abolition of small business which cannot afford AI based Technology.

The main purpose of accounting is to provide information in the most appropriate and adapted form to the appropriate user for making economics decisions internally and externally. Artificial intelligence is a Revolutionary development that could put forward the accounting profession to execute and make strategic decisions more effectively than before.

The procurement of unstructured data is a laborious and time consuming process. Procurement process can be paperless with the use of artificial intelligence. Monthly cash flows will be collected easily using AI powered system every month or quarter. Annual accounts also be complied with AI with reference to particular type of business. Artificial intelligence will help in internal auditing and financial management team. With the AI software huge data can be processed in a systematical way which will reduce their workload by 50%.

Focus Areas of Applications of Artificial Intelligence in Accounting and Auditing

Based on study of existing literature the main areas of application of AI in the field of accounting and auditing are as follows:

- 1) *Expert Systems (ES)*: it is the subset of knowledge based system that include an expert's expertise in the system knowledge base. In financial accounting Expert Systems is applied in designing financial statement and Accounting Information system processing invoices and putting entries, assessing standards, developing worksheets etc. In auditing and inventory control system ES is also applicable.
- 2) *Continuous Auditing*: Zhao et al.(2004) highlighted that continuous auditing is associated to paperless accounting information systems, significant technical hurdles, lack of standards and guidance, increased value of real time financial information and timely audit report.
- 3) *Decision Support System (DSS)*: it is a Computer Based system which is interactive, adaptable and versatile and helpful in decision making process. The use of DSS can be found in various unstructured accounting, auditing and Management tasks.
- 4) *Deep Learning & Machine Learning*: here computer system imitate the human thinking and learning to perform a particular job. As per ibm.com Machine Learning is a branch of Artificial Intelligence and computer science which focuses on the use of data and algorithms to imitate the way that human learn, gradually improving its accuracy.
- 5) *Neural Network (NN)*: It is a machine learning system that is applied in risk assessment which is a fundamental part of the auditing process.
- 6) *Natural Language Processing (NLP)*: It is a field of study that focuses on teaching artificial models to understand and process human speech(Deloitte, 2018).It is a virtual AI Technological tool that focuses on the replication of human natural language and communication methods(Chukwudi.et.al.,2018).
- 7) *Fuzzy Logic*: It is a technique of reasoning that resembles human thinking since its methodology mimics how human make decisions.

8) *Robotic Process Automation (RPA)*: It perform rule based and standardized tasks. Robots can be trained or programmed to do rule- based, repetitive, high volume operations. RPA differs from AI in that, it is process driven while AI is data-driven.

9) *Emergence of Block Chain Technology*: Block Chain Technology allows for the secure and cost-effective transmission of any value (data, asset, cash and information)in real time(Zhang et.al.2020). It will be very useful for accountant and auditor since it will provide useful data for corporate reporting, analysing population data instead of sample, data for audit design etc.

10) *Emergence of Big Data*: Big data is a double-edged sword that is characterized by four Vs.—large volume,high velocity, wide variety, and uncertain veracity (Zhang et al., 2020;Luan et al., 2020). It should be used tactically otherwise it will generate big problem.

Apart from these 'Genetic Algorithm' and 'Hybrid System' are some of the technologies which are helpful for automation and advancement of accounting and auditing process.

Impact of AI in Accounting Environment

The AI put great impact on accounting. There are so many advantages which the industry will enjoy but there always Shadow below the light. Here are some discussion...

Possible Benefits of AI Implementation

- AI will remove the repetitive time consuming tasks performed by traditional system of accounting.
- It will reduce the possibility of financial fraud. Computer software need to complete heavy accounting and other works, accounting personnel only preview this. AI can perform bookkeeping, maintain register, and produce financial statement through analysing the data so there exist much more accuracy and relevance.
- Through AI based software company can improve the quality of accounting information. Accounting personnel in traditional accounting take ample manpower and financial resources to check various vouchers, accounting books, statements etc. Resulting fatigue and mistakes for long exertion which distorts accounting information. But AI will perform those with high efficiency and accuracy.
- Implementing AI in various fields, industry can improve productivity and facilitate higher Customer services.
- It can be helpful for time and manpower saving and this can be reallocated into more Complex and value added task.

Risk aspects of AI implementation

- In case of organization under greater monitoring by AI there exist some conflict of interest and threat of independence on the part of the external auditor.
- The risk of extinction of conventional jobs and tasks exist due to introduction of artificial intelligence. So huge amount of unemployment will arise. Extensive use of AI will reduce the demand for accounting personnel. Existing personnel face the crisis of elimination.
- Accounting rules, laws, and standards may change time to time. For present level of Intelligence in AI application it is not possible for the AI system to update itself in response to changes in laws and regulations and policies. So frequent changes may hamper the process.
- The cost of implementing AI based technology is high. Many organisation cannot accept it at a time.
- AI based system of accounting need expertise training and knowledge. There exist reluctance from the side of accountants and auditors in our country to be accomplished with the technology.
- The overall workforces are against the implementation of AI in industry in India.

Here are some opinions of the reviewers:

- Qualitative improvements have to be brought forth by the accountants and auditors in terms of developing their professional skills, management skills, Information Technology skills, analytical and decision making skills.(chukwuani & Egiyi,2020. Zhang et.al.,2020)
- AI system replaces heavy accounting basic work to more valuable professional judgement based on large data analysis and data mining.(Zehong and Zheng,2018).
- Cloud computing is the hallmark of modernism of big data. Barring simple computer operations, accountants must command certain computer programming techniques to enhance their own data processing proficiency. Accountants should improve their competencies and participate in management to make themselves intelligent accountant.(Huang, 2027).
- Emergence of Gig Economy and Professional Hybrids: Griffin (2019) suggested that wider AI application will cause remote working to become more prevalent. Digitation of work and emergence of gig economy will transform the jobs and workplace dynamics. Many of the works will become freelance and professional hybrids will be of much demand in that scenario.

Effects of implementation of AI in accounting

From the above discussion it is clear that every organization should accept AI undoubtedly. The emergences of such disruptive technology always bring some problems. There are various ways to overcome these problems. There are some ethical concerns for implementation of AI. Abolition of traditional system cannot be accepted by all professionals. There are so many questions for cyber security laws. There may arise new techniques of committing frauds. So formulation of new cyber security law, Data protection laws, Artificial Intelligence law are essential and their implementation also. Policy formulation at both National and information level will be required to standardize use of cognitive technologies.

Fear of unemployment is associated with the implementation of AI. In future there may exist some sorts of professional hybrids, no one will be associated with a permanent job; freelancer's opinions will be hired. So compliance towards organization and responsibilities for human resource will be neglected.

The World Economic Forum (WEF) has issued numerous reports forecasting how AI will impact jobs worldwide. Automation through implementation of AI will result in an increase of 58 million jobs, two-third of which will be highly skilled. In the field of accounting various types of automation has been introduced day by day. Computerized accounting system replaced the traditional paper works. Introduction of EDI Technology and various accounting software have made many dramatically shift in the work process. Initially there was a fear of loss of jobs but it will ultimately provide scope for new employment. For example in the early days of bookkeeping, software accounting jobs changed drastically. Intuit launched in 1983 and Microsoft Excel launched in 1985 did not in fact represent the demise of human book keepers as many feared. Instead the field grew 75% over the course of a decade.

AI aims at replacing manual tasks and eliminates the burden of repetition. The book keepers' job will no longer exist. However their job will be changed, where they have to put their other skills which were previously unutilized. Entry creation , approval flow, store records, audit and Tax Services can be done in part by " bookkeepers", or AI software for bookkeeping tasks. Virtual accounting services including AI bookkeeping represent not just a threat but an opportunity. In fact most modern finance and accounting firms already use form of AI accounting software like Quickbook, Oracle, Freshbook , Zohobook and many others.

Many accounting firms like Ernst & Young, Pricewaterhouse Coopers, Deloitte Touché Tohmatsu Limited has made application of AI technology.

Conclusion

Emergence of AI in accounting is an opportunity not a challenge for the accountant and accounting industry. Accountant should welcome AI Technology, they should improve their knowledge about it and

should produce maximum output. Educationalist should improve and modernize their syllabus for students to learn the new technology. Sufficient training and skill development techniques to be implemented by the organization so that these can go with the existing work force. New rules regulation and policies to be made by the government to provide cyber security. Thus there should be the clear path for development with the help of modern technology.

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