

THE IMPACT OF ARTIFICIAL INTELLIGENCE AND BLOCKCHAIN ON ACCOUNTING PROFESSION & AUDITING PROCESS – A STUDY ON CHARTERED ACCOUNTANT’S & ACCOUNTANT’S PERSPECTIVE

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Abstract

This research paper focuses on the impact of artificial intelligence and blockchain on the audit process and the efficiency and effectiveness of various accounting professions. Various analyzes and studies have shown that artificial intelligence plays an important role in facilitating the proper functioning of enterprises, and efficient and effective AI can significantly improve the audit process through audit automation. It also makes an important contribution to accounting, leading to significant improvements, Procedures and improved decision-making processes in various business areas. This research paper uses qualitative method to give a good overview of the influence of artificial intelligence on the auditing field and accounting process, highlighted the research gaps concerning the shortcomings that have not been highlighted by the other researchers, and provided the future directions of study on the shortcomings of artificial intelligence in the auditing process and the accounting profession.

INTRODUCTION

Artificial Intelligence plays a significant role in the performance of the audit procedures as well as facilitating proper decision making by accountants in making use of the advanced technology and making the most of it through being able to think radically and also having access to more relevant and reliable financial information. AI can be denoted as a combination of equipment and software as a human intelligence substitute to enable the tackling of various complex problems with the use of recognition and reasoning similar to that of human experts. The AI uses an expert system and it applies machine intelligence rather than human intelligence. Artificial Intelligence through the integration of emerging technologies such as the blockchain and big data has led to massive changes in the accounting sector in facilitating the reduction of misstatements and errors in the accounting information as well as enhancing the audits through delivering large scale automated audit in a desirable manner that led to various major accounting firms to take into consideration to integrate with AI in performing their auditing and accounting processes efficiently and effectively. (Zhang, Yingying & Xiong, Feng & Xie, Yi & Fan, Xuan & Gu, Haifeng. (2020)) ‘The technology has played an important role in facilitating the improvement of the financial information available that would lead to making an efficient and sound decision by the Accountants’. (Bin-Ghanem, H. and Ariff, A.M. (2016) The Auditor’s scope and focus have been expanded by the AI beyond even the information made available by the financial statements to take advantage of the emerging technologies that would provide a better means of financial reporting to the accountants and proper audit of these financial statements by the auditors. As the AI through deep learning process would offer the tender to automate various tasks that would have had to be done manually as it provides a means of scanning of the financial reports by the machine that helps in distinguishing all the accounts and supporting evidence of each account thus enabling error detection leading to more reliable financial statements.

LITERATURE REVIEW METHODS

This research paper mainly focuses on an integrative review aimed at analyzing the impact of artificial intelligence on the auditing and accounting decision-making process. The Qualitative research from Primary as well as secondary data is the source of information for the literature review and is well integrated to provide all the information required for this research work.

Research Parameters

The authors have defined the research parameter as the data collectible from the target population, whereby the data collection was based on artificial intelligence and this type of data is attributable towards various audit reports and the yearly accounting financial statements of various businesses and companies.

The search terms and phrases used in the paper

- Artificial Intelligence
- Block Chain
- Auditing Process
- Accounting Profession

Databases and search engines used in the Paper

- Indian Institute of Management Database (Library Assistance)
- Google Scholar
- ResearchGate

LITERATURE REVIEW

Artificial Intelligence has played a vital role in enhancing Auditing and Accounting performances and has the potential to extend the possibilities of the accounting process in a broader manner. (McGuigan, N. & Ghio, A. 2019) The awareness of the use of various accounting applications and software can lead to a significant improvement in various operations such as performing an audit and even accounting decision making. The Managerial accounting decision-making process can be enhanced through the use of artificial neural networks such as soft computing and artificial neural networks. (Mirzaey, Mehdi & Jamshidi, Mohammad & Hojatpour, Yousef. (2017) This literature review provides a critical, Comparable, and contrasting overview with regards to Artificial intelligence (AI) and auditing process as well as the Accounting decision making.

Artificial Intelligence role in predicting the financial distress in the audit processes

Artificial Intelligence plays an important role in making predictions about the financial distress that could occur in the audit process. The audit process is described as the means of detecting any misstatements in the financial statement of the companies while AI is described as the integration of emerging technologies to improve the efficiency and the effectiveness of the business operations. Hansen, J.V (1992) argues that the machine learning models have a significant implication in the formulation of various predictions and decisions in the process of performing the audit that in return would reduce the financial distress that could occur in the financial statements. In contrast, the author's Chang, S. & Hwang (2020) stressed that the financial distress in the audit process can be overcome by adopting the big data techniques that include the binary model and life test methods such as fifty-four financial indicators and the corporate governance models to predict the financial distress in the company where the results proved that the variables selected performed well in the prediction process. (Chang, S. & Hwang, L. 2020)

Artificial intelligence impact on audit evidence and ethical decision making

The Audit evidence is important key information that the auditors seek while they intend in performing an audit of the financial statements of the company that assures the auditors that the information is presented fairly in the statements. Ivy, M., Brown-Liburd, H. & Miklos (2020) documented the importance of the development of effective as well the practical governance over the methodology of using the AI such that a result in ethical decision making can be achieved thus with attaining the appropriate the audit evident the audit is capable of making an ethical judgment and decisions for the financial statements. (Ivy, M., Brown-Liburd, H. & Miklos, V. 2020) On the contrary, Al-Sayyed, Saleh & Al-Aroud, Shaher (2021) & Zayed, Lena, and Thammacharee, Y (2021) Supported the impact of AI in the audit evidence and decision making to be effective where they suggested that there is a necessity to develop the skills and knowledge with appropriate actions taken by the auditors such that the ethical decision making in the attainment of the audit evidence can be appraised, while Sánchez-Medina, A., J., Blázquez-Santana, F. & Alonso, J.B(2019) criticized the ethical aspects and provided a situation where the auditors failed to be ethical in offering opinions after attaining the audit evidence of the financial statements, they offered an opinion different than that presented in the statements to avoid bankruptcy for the companies being audited, so they ended up suggesting that different tools should be used such that the auditor's behaviors can be tracked in the areas of opinions offered and the detection of any dishonesty.

Artificial intelligence and the internal audit control system

The internal audit control system can be denoted as the process of providing internal assurance about the operational, financial, and compliance efficiency and effectiveness of a company. The use of the neural network has led to better assessment for the audit risk through the incorporation of AI and can even lead to less time taken to complete an audit process and improve the opinions and suggestions offered by the auditors to the company. Friedlob, G.T. & Lydia L.F. Schleifer (1999) suggested that the internal auditors must be concerned about the advancement of the fuzzy logic to trace the uncertainties in the day-to-day operations. Shim, J.K. & Rice, J.S. (1988) stressed that AI specifically the expert system will play an important role in preparing the internal and external financial reports efficiently and effectively that would lead to a better performance in the audit planning and internal control function.

Artificial intelligence and the Accounting systems

The accounting systems can be described as the mechanism of keeping track of several transactions occurring in a specific company in a given period to maintain the proper record of the transactions of the company. Wongpinunwatana, N., Ferguson, C. & Bowen (2000) developed a framework of task technology fit alongside a model to establish the relationship between tax and AI on the users where the results proved that with evidence that the accounting systems have a positive impact on the auditors in solving their problems and being assured that they provide a fair and just opinion on the audited financial statements. In supporting the framework developed that led to a positive impact on the Audit process with the integration of AI. Tarmidi, M.B., Rozalan, A.H.A., Rasli, M.A.M., Roni, R.A. & Alizan, N.K.S.(2018) and Syed Moudud-Ul-Huq(2014) supported that the accounting systems alongside the AI and machine learning would result in significant results in the accounting process as it would make the use of the Artificial intelligence Accounting system (ALIAS) in enhancing the accounting and audit process to maintain better financial records. The accounting systems are projected to replace the human workforce shortly that would shift the dependence from human to machines with the implementation of the Robotic process automation as investigated by Can, T.K., Türkyılmaz, M. & Birol, B. (2019) that will lead to an increase in the effectiveness and efficiency of the auditing process and transactions that as a result would ensure the automation of the internal audit control and financial reporting. There was a sort of criticism developed by Sutton, Steve & Holt, Matthew & Arnold, Vicky (2016) where they stressed the issues that would be caused by the implementation of the accounting systems and AI in the accounting practices and its ability to cease the accounting profession in the long run as the humans would be replaced by machines and robots. (Sutton, Steve & Holt, Matthew & Arnold, Vicky. (2016)

RESEARCH GAPS

The previous researches have stressed and focused on the demonstration of the impact of artificial intelligence on auditing and accounting decision-making process. Nevertheless, the research papers are written by Tarmidi, M.B., Rozalan, A.H.A., Rasli, M.A.M., Roni, R.A. & Alizan, N.K.S. (2018) and Syed Moudud-Ul-Huq (2014) solely focused on positive aspects of the accounting systems integrated with AI in the accounting and auditing procedures but did not highlight on the threats that these accounting systems pertain which is one of the major gaps that need to be given attention and researched about, furthermore, the researchers are done by Hansen, J.V., McDonald, J.B. & Stice, J.D. (1992) did not shed the attention on the shortcomings that the accounting firms would encounter if the predictions of the financial statements went wrong, this is a major area that requires critical research to be done such that any harm or loss does not occur in various businesses and companies. Significant research is required to be performed to address these gaps in the future to examine the threats of the accounting systems and the prediction of the financial information.

Research Questions

- What are the short fallings related to artificial intelligence and auditing processes?
- To what extent the implementation of artificial intelligence would affect the role of Auditors?

Sub Questions

- What are the disadvantages of adopting Artificial Intelligence in evaluating the audits?
- What are the major drawbacks artificial intelligence has over internal audit control?
- To what extent the artificial intelligence would affect accounting decision-making?
- What opportunities can the accounting systems offer to accountants in their profession?

Research Aim

The research is projecting to understand and examine the drawbacks and short fallings related to artificial intelligence and auditing alongside the accounting decision-making process.

CONCLUSION

This research has stressed the impact of artificial intelligence on auditing and the decision-making process and proved that there is a positive impact on the audit processes and the accounting decision making such as the implementation of the accounting systems and the use of AI to improve the efficiency and effectiveness of the company's operations. Artificial intelligence facilitated the automation of various accounting tasks and operations resulting in timely and reliable decision-making, thus eliminating any chances of errors that would be caused by humans. Most of the developed and developing countries are open to adopting the AI in their companies to enhance their performances and even during the hiring process more preference is given to those with Information technology skills such that they can easily adapt to the usage of AI while performing auditing and accounting tasks. Artificial intelligence is essential in the auditing process and accounting decision-making as it would lead to greater performances and enhance the businesses and company's potential.

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