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A STUDY ON THE ROLE OF ARTIFICIAL INTELLIGENCE IN ACCOUNTING

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ABSTRACT

Artificial Intelligence (AI) is the process by which machines may mimic human intelligence, including reasoning, learning, and decision-making. Applications such as natural language processing, robotics, and predictive analytics are powered by it. Accounting is the methodical process of documenting, evaluating, and summarising a company's or organization's financial activities. Providing accurate financial statements and reports, guarantees regulatory compliance, offers information about financial health, and facilitates decision-making. The purpose of conducting this research is to evaluate the role of Artificial Intelligence in Accounting. The technique used in the current study is one sample t-test. The findings indicated that Processes data in real-time, predicts financial trends, makes auditing faster and easier, Speeds up financial reporting, helps prepare accurate tax returns, detects fraud in transactions, reduces errors in accounting, manages cash flow better, helps plan financial strategies, saves time for accountants, Analyses risks effectively, Guides accountants with virtual assistants are the significant role of AI in accounting.

Keywords: *Artificial Intelligence, Accounting, One Sample t-test.*

1. INTRODUCTION

Education, learning design, manufacturing, healthcare, and accounting are just a few of the industries that have been impacted by the tremendous advancements in artificial intelligence (AI) over time. Artificial intelligence (AI) is the scientific and technological method of creating intelligent machines, particularly clever computer programs that allow computers to understand human cognitive processes (Davenport and Ronanki, 2018).

Artificial intelligence is additionally referred to as "cognitive technology or cognitive computing". Not all of its uses are important or relevant to accounting, and its range is extremely broad (Kokina & Davenport, 2017). Due to its extensive impact, artificial intelligence (AI) has been incorporated into business education and practices, even though its technical parts are outside the scope of traditional business disciplines The application of AI technology has an impact on a broad range of business processes, including "production, distribution, procurement, sales and marketing, accounting and finance, audit, research and development, and human resource management". The advantages and disadvantages of AI technology apply equally to accounting and auditing, two crucial business functions.

AI has had a big impact on a lot of areas, such "accounting, auditing, and financial reporting." Accounting professionals have begun to use automation areas to make their routine activities more effective and efficient. According to Li and Zheng (2018), as a result, computer-based formats and increased complexity are being used in auditing, bookkeeping, and financial reporting systems. The growing size of accounting information systems has made it necessary to incorporate AI principles to mitigate potential problems with the conventional approach.

Artificial Intelligence

A broad definition of AI can be used in a variety of contexts and applications, according to Martinez's (2019) definitional analysis, provided that it is adaptable and takes into account the most recent advancements in autonomous

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AI. The author described several techniques for generating a broad definition. Grewal (2014) examined every definition of artificial intelligence that was in use at the time and suggested that AI is a mechanical simulation system that analyses the intelligence of the universe and learns new things. "Knowledge, information, and intelligence" are gathered, analyzed, and presented to the relevant parties in the form of practical intelligence as part of the process. Artificial intelligence (AI) is defined by Haenlein and Kaplan (2019, as referenced in Zemánková, 2019) as a system's capacity to precisely comprehend the exterior input, learn from it, and use what it has learned to accomplish certain tasks and goals through adaptable adaptation.

Table No: 1 Benefits and Drawbacks of AI in Accounting

Aspect	Benefits of AI in Accounting	Drawbacks of AI in Accounting
Data Quality	Improves the quality of accounting data by reducing errors and enhancing efficiency. (Polak et al. 2020)	Requires high -quality data for effective learning; poor data quality can lead to errors and irregularities in models. (Ucoglu, 2020)
Error Detection	Easily identifies errors and anomalies in data and provides feedback to users. (Polak et al. 2020)	**********
Efficiency	Automates labour intensive tasls such as data entry, expense tra cking and report g eneration, saving time and effort. (Polak et al. 2020)	High initial costs for implementation and retraining staff increases financial burde n. (Ucoglu, 2020)
Forecasting	Offers predictive solutions and forecasting capabilities, providing better insights into financial situations. (Polak et al. 2020)	**********
Cost	Reduces operational costs over ti me by automating repetitive tasks. (Polak et al. 2020)	High in stallation and maintenance costs for AI systems. (Ucoglu, 2020)
Ethics and Privacy	Enhances operational transparency with advanced systems. (Polak et al. 2020)	Raises ethical concerns and risks regarding privacy and data security. (Ucoglu, 2020)

From the above table it can be seen that although AI automates repetitive tasks and improves efficiency, its implementation requires significant financial investments. It also reduces errors in routine tasks, but its performance heavily relies on the availability of high-quality data. Further, it can be seen that AI does provide valuable future insights; but it also has ethical challenges towards accountability and privacy.

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2. REVIEW OF LITERATURE:

1. **V., M., Bhavya., M., et al. (2024)** examined how AI is revolutionising the accounting field, highlighting how it improves accuracy, streamlines procedures, and offers insightful information to help with better decision-making. The findings of the study indicated that AI is transforming accounting by automating repetitive processes like data entry and bookkeeping, freeing up accountants to work on more important projects. AI also can examine enormous datasets, find patterns, and identify threats, all of which enhance financial planning and the detection of fraud. It was further found that AI also helps in improving accounting procedures' accuracy and efficiency while providing fresh perspectives for corporate decision-making. The research also stated some issues with AI such as security of the data and confidentiality and the need for accountants to be well versed with the skills required to use AI technologies.
2. **Moustafa, Al, Najjar., et al. (2024)** examined the impact of AI and how it reduces accounting errors and focuses perspective on accounting software developers and certified public accountants. The results of the study indicated significant benefits to software developers by effectively addressing various accounting errors, “including tax rate discrepancies, cut off period inaccuracies, principal violations, concealed transactions, and manipulation errors.” Users' perceptions of AI's efficacy vary; while it effectively reduces errors linked to principles, it is less successful at correcting mathematical errors. The study highlights both AI's potential and limitations while offering fresh perspectives on the technology's application in accounting, especially in developing nations.
3. **Sophia, Vandapuye., Siham, Jabraoui. (2024)** analyzed the effects of incorporating AI into the accounting field, emphasizing how it might transform professional profiles, abilities, and duties. The research found that AI integration is simplifying routine tasks within the accounting firms, and allows the accounting professionals to focus more on strategic roles and enhancing employee skills and performance. The study emphasizes that using AI in accounting is essential for staying competitive and relevant in the accounting field.
4. **Liliane, et al. (2024)** explored the potential benefits and challenges of introducing AI mostly ChatGPT into financial and accounting professional’s day-to-day work. The results indicated that ChatGPT is an advanced AI language model, that can significantly enhance the “efficiency, productivity, and capabilities of financial and accounting professionals. The study also found challenges such as ethical concerns, displacement and intellectual property rights issues”.
5. **Lyna, Latifah., R., et al. (2023)** investigated how future accountants can develop ethical behavior about AI by looking at how their personal and organizational beliefs affect their intention toward AI ethics. The study found that prospective accounts' inclination to participate in AI ethics is pragmatically and significantly influenced by their personal and organizational beliefs. Organizational values also have a positive effect on personal values. Intentions effectively moderate the relationship between individual values and engagement in AI ethics, while personal values do not mediate the relationship between organizational values and intentions.
6. **Ke-afoon Collins Kindzeka (2023)** assessed how AI is currently used in financial reporting, auditing, and accounting. It was discovered that several AI technologies are being used in financial reporting, auditing, and accounting. Furthermore, it was observed that AI makes it easier to integrate and process enormous volumes of data, expands the area of accounting, and facilitates automated data input.
7. **Professor Ovidiu-Constantin, (2023)** analyzed the available literature on AI with the aim to examine its effect on accounting professionals. The literature brought forward the growing trends in publications on impact of AI in accounting. It was seen that there a strong connection between AI technologies and accounting professionals, it also emphasizes the transformative role of AI in enhancing efficiency and accuracy in accounting processes.
8. **Ranjith, P., et al. (2021).** Explored the way organisation like KPMG are using AI in the accounting industry, the researchers also aimed to understand the effect of AI adoption in the tasks and practices of accounting. The

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findings of the study indicated that there appears a significant positive relationship between the adoption of AI and improved accounting tasks at KPMG. The findings demonstrate how AI may raise productivity and raise accounting standards.

3. OBJECTIVES OF THE STUDY:

1. To evaluate the role of AI in Accounting
2. To provide practical suggestions for effectively integrating AI into accounting practices

Hypothesis:

H_0: The role of Artificial Intelligence in Accounting is insignificant.

H_1: The role of Artificial Intelligence in Accounting is significant.

4. RESEARCH METHODOLOGY:

Table No: 2 Research Methodology

Research Design	Descriptive
Data Collection	Primary and Secondary
Sampling Technique	Non-Probability Purposive Sampling
Sample Size	80 Accountants
Sample Size Determination	According to Faul et al. a minimum sample size of 45 is required for conducting a one-tailed one-sample t-test.
Statistical Technique	Parametric One-Sample t-test
Statistical Tool	R Studio Software

Data Analysis and Interpretation:

Table No: 3 one sample t test

Items	t – statistics	P – value	Ha: Role of AI in Accounting > 3
Processes data in real time	19.09	0.000	High impact
Predicts financial trends	19.03	0.000	High impact
Makes auditing faster and easier	20.32	0.000	High impact
Speeds up financial reporting	20.88	0.000	High impact
Helps prepare accurate tax returns	21.56	0.000	High impact
Detects fraud in transactions	23.90	0.000	High impact
Reduces errors in accounting	22.56	0.000	High impact
Manages cash flow better	22.89	0.000	High impact

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Helps plan financial strategies	21.49	0.000	High impact
Saves time for accountants	19.32	0.000	High impact
Analyses risks effectively	23.45	0.000	High impact
Guides accountants with virtual assistants	22.00	0.000	High impact

Parametric one sample t–test (one-tailed) is applied to examine the roles of AI in accounting. It is seen that p – value < 0.05 and t statistics > 1.96 for Processes data in real time, predicts financial trends, makes auditing faster and easier, Speeds up financial reporting, helps prepare accurate tax returns, detects fraud in transactions, reduces errors in accounting, manages cash flow better, helps plan financial strategies, saves time for accountants, Analyses risks effectively, Guides accountants with virtual assistants.

5. CONCLUSION:

The results of this investigation highlight how artificial intelligence (AI) is revolutionizing the accounting field. AI has shown that it can handle data in real time, which makes it possible to forecast financial trends and improves the accuracy and speed of financial reporting. It makes complicated auditing procedures easier, makes it easier to prepare accurate tax returns, and is essential for identifying fraudulent activities and lowering accounting errors. AI also helps with strategic financial planning, efficient risk analysis, and improved cash flow management, freeing up accountants to work on more worthwhile projects. AI not only saves time but also improves decision-making and operational efficiency in the accounting industry with features like virtual assistants to mentor experts. These findings demonstrate how AI can completely transform conventional accounting procedures and how important it is to the sector's efforts to increase accuracy and productivity.

SUGGESTIONS:

- Regular training on AI tools and technologies will help accountants and other finance professionals reach their full potential and adapt to AI-driven processes.
- When using AI solutions, maintain customer confidence and protect sensitive financial data by using robust data encryption protocols and cybersecurity measures.
- Ensure that the software and AI solutions chosen should support the company's objectives and comply with relevant regulations. These could include fraud detection, financial reporting, and auditing.
- Ethical guidelines should be created and put into place to control the application of AI in accounting in order to guarantee responsibility, openness, and conformity to professional standards.
- As the company grows more accustomed to the technology, gradually increase utilization of AI. Start with small-scale adoption in routine operations like data entry, reconciliation, or tax preparation.
- Continuously assess the effectiveness and reliability of AI systems in accounting tasks to identify areas for improvement, address any issues that may arise, and ensure long-term success and compliance.

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