



Role of Artificial Intelligence in Modern Accounting Practices

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Abstract:

Artificial Intelligence (AI) has become one of the most revolutionary technologies of the 21st century that have dramatically transformed different industries of the global economy. In particular, the field of accounting has undergone significant changes since the introduction of artificial intelligence technologies into its activities. These technologies can be used to perform bookkeeping, auditing, financial reporting, fraud prevention, tax compliance, and decision making. This paper focuses on the topic of Artificial Intelligence in accounting and explores its applications, advantages, challenges, and perspectives. It is found that AI makes the work more efficient, accurate, productive, cost-effective, and less prone to human mistakes. At the same time, there are several concerns related to the issue such as security problems, ethical questions, high costs of implementation, and job losses. It is concluded that AI should not be considered as an alternative to the accountants but rather as an additional tool that can enhance their performance.

Keywords: Artificial Intelligence, Accounting, Automation, Auditing, Financial Reporting, Machine Learning, Digital Transformation

1. Introduction

Digital technologies have been changing the way businesses operate at an unprecedented pace. Out of all these innovations, Artificial Intelligence (AI) can be described as revolutionary in nature since it enables machines and software programs to imitate human intelligence. There are several technologies included in AI, including machine learning, natural language processing, robotic process automation, expert systems, and predictive analytics.

Traditionally, accounting has been associated with precision, accuracy, and the ability to analyze data and prepare reports. However, the growing complexity of modern-day business, increased amount of financial data, and need for immediate information require changes in technologies used in the field. The use of AI can help overcome these challenges through automation of routine activities, ensuring accuracy, and analyzing large amounts of data.

In the contemporary environment, businesses worldwide utilize AI in their accounting processes to increase efficiency and effectiveness of operations. Thus, the role of an accountant changes from that of a data processor to a strategic decision-maker. This is why it is vital to explore the impact of AI in the field of accounting.

2. Concept of Artificial Intelligence

Artificial Intelligence means the ability of computer systems to perform activities that generally require human intelligence. Such activities include learning, reasoning, problem-solving, decision-making, pattern recognition, and natural language processing.

According to John McCarthy, an American computer and cognitive scientist who coined the term "artificial intelligence" in 1956, artificial intelligence is the science and engineering of intelligent machines. Within the framework of accounting, AI facilitates the processing of financial information by software systems to identify irregularities, create reports and make decisions with the least human intervention possible.

Main elements of AI include the following:

- Machine Learning (ML)
- Natural Language Processing (NLP)
- Robotic Process Automation (RPA)
- Deep Learning
- Predictive Analytics
- Intelligent Data Processing

Together, these technological advancements facilitate the modernization of accounting operations.

3. Artificial Intelligence in Accounting Applications

1. Book-keeping Automation: The concept of bookkeeping includes recording financial transactions in a systematic manner. With the help of AI, accounting software systems can automatically classify and record transactions based on invoices, receipts, and bank statements.

2. Financial Reporting: AI plays an important role in creating financial reports by gathering information from several sources at once. Reporting tools prepare precise and current reports to help companies satisfy regulations quickly.

3. Auditing and Assurance Services: AI has revolutionized the audit processes, as machine learning allows for monitoring and analysis of a huge amount of financial data. Machine learning is able to find abnormalities in transactions faster than regular audits. AI-assisted audits increase audit quality by improving coverage and decreasing the risk of overlooking material misstatements.

4. Fraud Detection and Prevention: Fraud is one of the main issues that many organizations are facing today. With the use of AI, it becomes possible to monitor and analyze transactions and identify any suspicious activities. By using predictive analytics and finding anomalies, AI helps avoid financial fraud.

5. Tax Compliance and Planning: The regulations about taxes are usually very complicated and change frequently. AI tools assist organizations in calculating tax liabilities and planning how to save money on taxes.

6. Accounts Payable and Accounts Receivable Management: Accounts payable and accounts receivable management becomes automated with the use of AI. Smart programs are able to analyze and process invoices.

7. Forecasting and Budgeting: Predictive analysis makes it possible for companies to make forecasts about revenue, expenditure, and other financial aspects based on historical information. Forecasts that have been made using AI help managers in making sound decisions about budgeting and strategy formulation.

8. Financial Risk Management: Risk management is facilitated by the identification of the existing risks, which AI can do after evaluating market trends, economic indicators, and performance of the organization. Real-time risk evaluation helps organizations deal with any potential risks effectively.

9. Decision Support Systems: Decision-making has become an integral part of modern accounting, and AI-based decision support systems are useful because they provide useful insights based on complicated financial analysis.

10. Chatbots Providing Customer Service: Chatbots used by many accounting firms today enable handling customers' questions related to tax reporting, accounts, bills, and financial statements.

4. Benefits of Artificial Intelligence in Accounting

1. Increased Precision: Mistakes in data input and calculations made by humans can lead to costly errors for the organization. AI calculates data with accuracy and therefore less errors.

2. Increased Efficiency: Automating repetitive tasks increases efficiency in completing accounting-related tasks. Tasks which used to take several hours can now be completed in minutes through AI.

3. Reduced Costs: Automation leads to reduced costs from reduced labor involved in performing accounting tasks. The organization will therefore be more efficient in managing its resources.

4. Real-time Financial Data: Through continuous processing of data, AI provides real-time financial information. This will help in making timely and better-informed decisions.

5. Effective Fraud Detection: Through advanced analytics, AI can detect fraud and suspicious transactions which might not be easy to detect using other methods.

6. Increased Efficiency: Through automation, accountants can spend time in performing tasks that add value rather than spending time in performing repetitive tasks.

7. Compliance: The use of AI helps in maintaining accounting standards in the organization through effective record keeping and reporting.

Challenges of Artificial Intelligence in Accounting

1. Implementation Costs: There is a need for significant investments in software and equipment when adopting AI-based technologies. These costs can be difficult for small and mid-sized companies.

2. Data Security and Privacy Threats: One of the critical aspects of using AI in accounting is the necessity to process and store large amounts of data. The usage of sensitive financial data leads to increased risks of cyber-attacks and data leaks.

3. Technical Challenges: It is crucial for a business to have qualified personnel who can operate AI systems and are familiar with accounting practices. However, such specialists are rare and hard to find.

4. Ethical Issues: Ethical issues can arise due to decision-making processes based on AI algorithms. Organizations should create appropriate ethical frameworks and guidelines.

5. Technological Dependence: It is necessary to avoid dependence on technology which can be vulnerable to failures.

6. Displacement of Workers: The automation of processes causes worries about the displacement of accountants since routine activities are more likely to be replaced by algorithms. Nevertheless, many experts claim that AI will change the nature of work but will not eliminate jobs.

Impact of AI on the Accounting Profession

There is a major transformation happening in the role of an accountant. Earlier, accountants used to spend a lot of time doing repetitive tasks such as data entry, reconciliation of accounts, and processing of transactions. AI has automated most of the above-mentioned tasks so that professionals can concentrate on their strategic roles.

Modern accountants need to:

- Analyze the financial data.
- Offer business insight.
- Guide management regarding strategic decision-making.
- Evaluate the risk and opportunity.
- Ensure compliance to the regulations.

Therefore, the field is moving from transactional services to advisory and analytical functions. Educational organizations and accounting professional bodies have started integrating data analytics, AI, and digital technology in accounting education and training.

5. Future Prospects of AI in Accounting

The future of AI in accounting seems very bright. New innovations like generative AI, advanced machine learning, integration with the blockchain and intelligent automation will further revolutionize the process of accounting.

Some of the future advancements could be:

- Automated financial report generation.
- Continuous audit and assurance.
- Fraud detection systems.
- Tax advisory services.
- Personalized financial analysis.

- Advanced financial models.

The combination of AI and blockchain could contribute to increased transparency, safety, and reliability in financial dealings. The introduction of AI will not mean the replacement of accountants; rather, future AI will act as collaborators to augment human knowledge and decision-making abilities.

6. Conclusion

Artificial intelligence has proven to be one of the most important drivers of change in the field of accounting. Thanks to automation of various operations, improvement of their precision, fraud detection and effective decision-making based on collected data, AI has made accounting more efficient and successful. Companies which have adopted AI will get competitive advantages due to enhanced productivity, costs savings and sound financial management.

Though there are many benefits to be achieved through the use of AI, several obstacles including high implementation costs, cybersecurity issues, ethical problems, and insufficient skills need to be overcome to take full advantage of AI technology. The future of accounting will depend on how well humans and intelligent technologies will be integrated together.

Finally, AI should not be considered as a threat for the accounting field but rather as an opportunity for redefinition of the accountant's role in the modern world.

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