
ROLE OF ARTIFICIAL INTELLIGENCE IN ACCOUNTING

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Abstract

Accounting is a most important function in business which helps stakeholders in evaluating performance and making decisions. With the growing size of business, the number of business transactions is also increasing, leading to more chances of errors and delays in financial reporting. To tackle these limitations of manual accounting, Artificial intelligence comes in. By automating repetitive accounting tasks, AI helps businesses in a very effective way. The present study aims to find out how AI evolves in accounting, how it supports modern accounting systems and what are the challenges and considerations it faces.

Keywords: Accounting, Stakeholders, Artificial Intelligence, Automating

Introduction

Accounting plays an important role in business, helping stakeholders evaluate performance and making decisions. But many traditional accounting processes like data entry, invoicing or financial reporting can be time consuming and error prone. That's where Accounting AI (Artificial Intelligence) comes in. AI automates repetitive tasks like data entry, reconciliation and reporting, thereby boosting efficiency, reducing errors. It also helps in fraud detection and forecasting.

Review of Literature

Yi et. al (2023) reviewed the application of AI to solve accounting and finance problems like high subjectivity in decision making, low accuracy, and inability to handle large datasets. According to the study, AI can replace some repetitive tasks and provide more accurate and objective solutions. **Dongre et al., (2024)** discussed about relationship between artificial intelligence and the accounting system. The study discusses the uses of artificial intelligence in banking sector, health care, and e commerce and in an organization. The study also gave the opportunities and challenges of artificial intelligence in accounting. **Alruwaili & Mgamal (2025)** studied about the impact of artificial intelligence on accounting practices. The study provides comprehensive findings about AI usage by Saudi-Arabian accounting academics. The study concluded that the policymakers and other stakeholders must work together for the advancement of AI technology to improve financial decision making.

Objectives of the study

- To study the evolution of AI in accounting.
- To find out how AI supports modern accounting.
- To study the challenges and considerations of AI.

Research Methodology

The present study used secondary data which has been collected from various sources like books, journals and websites.

The Evolution of AI in Accounting

The evolution of Artificial Intelligence (AI) in accounting refers to the gradual development and increasing use of intelligent technologies in accounting practices over time. Initially, accounting relied on manual record-keeping and basic computerized systems that performed simple calculations and data storage. With technological advancement, accounting software evolved to automate routine tasks such as bookkeeping, payroll processing, and invoice generation. As AI developed further, advanced tools like machine learning, data analytics, and robotic process automation (RPA) were introduced into accounting. In recent years, AI has been used for predictive analysis, fraud detection, risk assessment, auditing, and strategic financial decision-making. Thus, studying the evolution of AI in accounting helps in understanding how the profession has transformed from manual and rule-based processes to intelligent, data-driven systems, enhancing efficiency, transparency, and decision-making in modern accounting practices.

- **Manual Bookkeeping era:** Traditionally, most accounting work was done manually, relying on individuals to prepare financial statements.
- **Spreadsheet Introduction (1980s):** Tools like Microsoft excel helped automate basic accounting tasks like data entry and expense management. Though these tools are not AI powered, they laid the foundation.
- **OCR technology adoption (1980s):** Optical character recognition (OCR) made it easier to extract data from invoices and enter it into computer systems.
- **Early AI applications (1990s):** Artificial neural networks began that supports tasks like fraud detection and financial forecasting. The adoption of these networks was limited due to their complexity.
- **AI growth phase (2000s):** More powerful machine learning algorithms developed with improved forecasting, analysis and risk assessment, leading to wider AI adoption in accounting.
- **Rise of NLP enhanced tools (2010 and beyond):** Natural language processing enabled AI to interpret human language, generate reports, analyze real time financial data and support decision making.

How AI supports modern accounting workflows

Artificial Intelligence (AI) plays a significant role in streamlining and enhancing modern accounting workflows by automating routine tasks, improving accuracy, and supporting better decision-making. Firstly, AI automates repetitive and time-consuming tasks such as data entry, invoice processing, bank reconciliation, and payroll management. Optical Character Recognition (OCR) and machine learning tools can read invoices and receipts, extract relevant data, and record transactions automatically, reducing manual effort and human errors. Secondly, AI improves accuracy and compliance in accounting processes. Intelligent systems continuously monitor transactions, identify anomalies, and flag potential errors or fraudulent activities. AI-driven compliance tools help accountants adhere to accounting standards, tax regulations, and reporting requirements by providing real-time updates and validation checks. Thirdly, AI enhances financial analysis and reporting. Advanced analytics and predictive models help accountants forecast cash flows, analyze trends, and generate real-time financial reports. This enables faster insights and supports strategic decision-making rather than just historical reporting. Additionally, AI supports auditing and risk management by analyzing large volumes of financial data quickly and efficiently. It helps auditors focus on high-risk areas by identifying unusual patterns and exceptions, thereby improving audit quality and efficiency. Overall, AI transforms modern accounting workflows by shifting the focus from manual processing to value-added activities such as analysis, advisory services, and strategic planning, making accounting more efficient, accurate, and future-ready.

- **Automating data entry and bookkeeping:** AI handles data entry from invoices/receipts, automates journal entries, processes payables/receivables, and manages expenses, reports, reducing manual efforts.
- **Speeding up financial reporting:** AI can quickly generate financial statements (P&L, Balance Sheet etc.) enabling faster closing cycles.
- **Enhancing audits and fraud detection:** AI scans vast amount of data pinpointing inconsistencies, making audits faster and more focused. Moreover, AI can also analyze large datasets to identify suspicious patterns, unusual transactions and discrepancies, flagging potential fraud.
- **Improving customer experience:** AI assistants and chat bots can answer common questions, freeing up accounting professionals for higher-value client work.
- **Optimizing cash flow and budgeting:** As AI can handle huge amount of historical data, it helps businesses forecast spending patterns and manage budgets more effectively.

Benefits of AI in accounting

Artificial Intelligence (AI) offers numerous benefits to the accounting profession by improving efficiency, accuracy, and decision-making.

- **Greater effectiveness:** AI helps accounting professionals spending less time on manual work and more on strategy and planning, by automating routine tasks.
- **Improved accuracy:** AI reduces human errors and ensures that financial reports, tax filings are more reliable.
- **Better decision making:** AI tools provide forecasts that support strategic decisions such as cash flow management, risk mitigation and growth planning.
- **Cost savings:** Fewer errors and less manual work turns into less operational cost for firms.
- **Higher client satisfaction:** with faster responses, more accurate data firms get higher client satisfaction.
- **Automation of Routine Tasks** AI automates repetitive tasks such as data entry, invoice processing, bank reconciliation, and payroll, saving time and reducing manual workload.
- **Improved Accuracy and Reduced Errors:** AI systems minimize human errors by processing large volumes of data with high precision and consistency.

- **Time and Cost Efficiency:** By speeding up accounting processes and reducing the need for manual intervention, AI helps organizations lower operational costs and improves productivity.
- **Enhanced Fraud Detection and Risk Management:** AI can identify unusual patterns, anomalies, and potential fraud in real time, strengthening internal controls and financial security.
- **Better Financial Analysis and Forecasting:** AI-powered analytics provide insights into trends, cash flow forecasting, budgeting, and performance analysis, supporting informed decision-making.
- **Real-Time Reporting:** AI enables faster generation of real-time financial reports, helping management respond quickly to changing business conditions.
- **Improved Compliance and Regulatory Support** AI tools help ensure compliance with accounting standards, tax laws, and regulatory requirements by continuously monitoring transactions and updates.
- **Enhanced Audit Quality** AI supports auditors by analyzing entire datasets instead of samples, improving audit accuracy and efficiency.
- **Strategic Role of Accountants** With routine tasks automated, accountants can focus more on advisory roles, strategic planning, and value-added services.

Overall, AI enhances the effectiveness of accounting functions and supports the transition of accountants from traditional bookkeeping roles to strategic business partners.

AI's challenges and Considerations

While Artificial Intelligence (AI) offers significant benefits to accounting, its adoption also presents several challenges and important considerations that organizations must address.

- **High Implementation Cost:** Implementing AI systems requires substantial investment in software, infrastructure, and skilled personnel, which may be difficult for small and medium-sized firms.
- **Data Quality and Availability:** AI systems depend on accurate, complete, and well-structured data. Poor data quality can lead to incorrect analysis and unreliable outputs.
- **Data Security and Privacy Concerns:** Accounting involves sensitive financial information. The use of AI increases the risk of data breaches and cyberattacks, making strong data protection measures essential.
- **Lack of Skilled Professionals:** There is a shortage of professionals who possess both accounting knowledge and AI or data analytics skills, creating a skills gap in the profession.
- **Ethical and Bias Issues:** AI systems may inherit biases from historical data or flawed algorithms, leading to unfair or misleading outcomes in financial analysis and decision-making.
- **Regulatory and Compliance Challenges:** Accounting regulations and standards may not always align with rapidly evolving AI technologies, creating uncertainty in compliance and audit practices.
- **Dependence on Technology:** Over-reliance on AI systems may reduce human judgment and professional skepticism, which are critical in accounting and auditing.
- **Integration with Existing Systems:** Integrating AI tools with legacy accounting systems can be complex, time-consuming, and costly.
- **Job Displacement Concerns:** Automation through AI may reduce the demand for certain traditional accounting roles, raising concerns about employment and role changes.
- **Need for Human Oversight:** AI outputs require continuous monitoring and validation by accountants to ensure accuracy, reliability, and ethical use.
- **Bias and fairness:** The quality of AI output depends upon the quality of data used. They could end up generating misleading responses.
- **Transparency:** AI systems rely on complex algorithms and machine learning models to perform various actions. It can be challenging to track how decisions are made from these models.
- **Accuracy:** However very powerful, AI tools are not perfect. They can give inaccurate output from time to time and could affect quality of our decisions.
- **Data Privacy Concerns:** Most AI systems collect user data. So, most stakeholders have concerns about misuse of personal data and sensitive information.

Conclusion

AI has evolved from spreadsheets to NLP enhanced tools. AI now can interpret human language, generate reports, analyze real time financial data and support decision making. AI also assists in auditing large datasets and detecting frauds at the earliest. It can quickly generate financial statements and enable faster reporting. Fewer errors and reduced manual work turns into less operational costs for firms. Despite these benefits, AI faces several challenges like transparency, accuracy, data privacy and personal bias. If these challenges are addressed carefully, then AI can prove to be a very effective support system for businesses in the field of accounting.

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