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Use of AI in Accounting & Finance

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Abstract

Artificial Intelligence (AI) is changing the way accounting and finance activities are performed in modern organizations. AI tools help in automating routine tasks such as data entry, invoice processing, bookkeeping, and report preparation. In accounting, AI improves accuracy, reduces human errors, and saves time by handling large volumes of financial data quickly. In finance, AI is widely used for forecasting, risk assessment, fraud detection, investment analysis, and decision-making. Machine learning algorithms can analyze past financial data to predict future trends and identify unusual transactions. AI also supports auditors by improving audit quality and efficiency. The use of AI increases transparency, efficiency, and reliability in accounting and finance. However, challenges such as data security, lack of skilled professionals, and ethical concerns still need proper attention. The study highlights that AI is not replacing professionals but supporting them in making better and faster financial decisions.

Keywords: Artificial Intelligence, Accounting, Finance, Automation, Financial Analysis, Fraud Detection, Decision Making

Introduction

In recent years, Artificial Intelligence (AI) has emerged as one of the most powerful technologies influencing business and financial activities across the world. The rapid growth of digital data, advanced computing power, and intelligent algorithms has transformed the way accounting and finance functions are performed. Traditional accounting and financial practices, which were largely manual, time-consuming, and prone to human error, are now being replaced or supported by AI-based systems that enhance speed, accuracy, and decision-making quality. Accounting and finance play a crucial role in every organization, as they provide essential information for planning, control, compliance, and strategic decisions. With increasing business complexity and regulatory requirements, professionals in these fields face challenges such as large data volumes, tight reporting deadlines, fraud risks, and the need for real-time insights. AI technologies, including machine learning, natural language processing, and robotic process automation, offer effective solutions to these challenges by automating routine tasks, analyzing complex financial data, and detecting patterns that are difficult for humans to identify. The use of AI in accounting has significantly improved functions such as bookkeeping, auditing, tax compliance, and financial reporting. Similarly, in finance, AI is widely used for credit risk assessment, investment analysis, fraud detection, forecasting, and portfolio management. These applications not only reduce operational costs but also improve accuracy, transparency, and reliability of financial information. As a result, accounting and finance professionals are increasingly shifting their focus from routine data processing to strategic analysis and advisory roles. Despite its numerous advantages, the adoption of AI in accounting and finance also raises important concerns related to data security, ethical issues, job displacement, and system reliability. Therefore, it is essential to study the use of AI in these fields in a systematic manner to understand its benefits, challenges, and future implications. This research paper aims to examine the role of Artificial Intelligence in accounting and finance, highlighting its applications, impact on professional practices, and its potential to reshape the future of financial decision-making.

Review of literature:

1. Evolution of AI in Business Functions

Artificial Intelligence (AI) has undergone rapid development over the last two decades, moving from theoretical constructs in computer science to practical applications in business operations.

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Early research focused on expert systems and rule-based automation, but recent studies emphasize machine learning, deep learning, and natural language processing (NLP) as transformative technologies across industries (Brynjolfsson & McAfee, 2014; Davenport & Kirby, 2016). In accounting and finance, this evolution has mirrored broader trends in technology adoption, with firms gradually moving from spreadsheet-based analysis to algorithmic decision support systems.

2. AI in Accounting Practices

A significant body of research highlights how AI enhances accounting processes. Automation of routine tasks like data entry, invoice processing, and reconciliations is one of the most widely documented benefits. Studies show that AI tools, such as robotic process automation (RPA), reduce manual workload and error rates, freeing accountants for higher-value tasks (Moll & Yigitbasoglu, 2019). Moreover, machine learning models have been used to analyze large datasets for anomaly detection, fraud prediction, and risk assessment (Moffitt, Rozario & Vasarhelyi, 2018).

AI's ability to analyze unstructured data (e.g., contracts, tax documents) using NLP has also been recognized as a major advancement, enabling faster audits and enhanced compliance monitoring. Emerging research indicates that auditors using AI can achieve greater coverage in financial statement reviews and more precise sample testing compared to traditional methods.

3. Financial Decision-Making and Forecasting

In finance, predictive analytics powered by AI algorithms outperform traditional statistical models in tasks like credit scoring, stock price forecasting, and portfolio optimization. Research by Chen et al. (2020) shows that deep neural networks can incorporate vast amounts of financial, economic, and sentiment data to generate forecasts with higher predictive accuracy than conventional econometric models.

AI is increasingly used in risk management, where algorithms identify patterns in market data that humans might miss, allowing real-time risk adjustments. For example, studies on algorithmic trading emphasize how reinforcement learning and genetic algorithms improve trading strategies, although they raise questions about market stability.

4. AI for Compliance and Regulatory Reporting

Regulatory technology (RegTech) powered by AI has become a key area of interest. Algorithms can sift through regulatory texts and map compliance requirements, reducing costs associated with legal reviews and reporting. Research suggests that AI tools can flag compliance risks early and support regulatory reporting with higher accuracy, particularly in complex financial environments (Arner, Barberis & Buckley, 2017).

5. Human-AI Interaction and Skill Transformation

A recurring theme in the literature is how AI changes the role of finance professionals. Scholars argue that accountants and financial analysts must develop new competencies in data science and technology management. AI is not replacing humans but

augmenting their capabilities — calling for hybrid skills that blend domain expertise with technological fluency (Alles, 2015; Warren, Moffitt & Byrnes, 2015).

6. Ethical and Governance Issues

There is growing concern about ethical risks associated with AI in financial decision-making. Issues such as algorithmic bias, lack of transparency (the “black box” problem), and data privacy have been documented. Recent research emphasizes the need for governance frameworks and explainable AI to ensure accountability and trust in AI-driven financial systems

Research Gap

1. Impact on Small and Medium Enterprises (SMEs)

Most studies focus on large corporations with the resources to invest heavily in AI. There is limited empirical evidence on how SMEs adopt AI in accounting and finance, and what barriers (cost, skills, and infrastructure) uniquely affect them.

2. Longitudinal Assessment of Outcomes

Existing literature largely relies on cross-sectional or case-based research. There is a lack of long-term studies that track how sustained AI integration affects financial performance, audit quality, and error rates over time.

3. Human-AI Collaboration Dynamics

While many papers discuss task automation, relatively few examine *how* accountants and finance professionals interact with AI systems in real work settings. Questions about trust, accountability, and decision-making dynamics in hybrid human-AI workflows remain unclear.

4. Ethical Frameworks Specific to Accounting & Finance

The ethical discussions are mostly conceptual. There's a noticeable gap in industry-specific frameworks that guide ethical AI use in accounting and finance. For example, how should firms handle algorithmic bias in credit scoring or ensure audit transparency when using complex AI models?

5. AI's Impact on Regulatory Compliance Costs

Although Reg Tech adoption is growing, empirical studies quantifying cost savings, error reduction, or compliance efficiency gains are scarce. This makes it difficult for firms to build robust business cases for AI investments in compliance functions

Objectives of the present Study:

- To study the concept of Artificial Intelligence (AI) and understand its relevance in the field of accounting and finance.
- To examine the various applications of AI in accounting activities such as bookkeeping, auditing, taxation, financial reporting, and compliance.
- To analyze the role of AI in financial decision-making, including forecasting, risk management, fraud detection, and investment analysis.
- To assess the impact of AI on efficiency and accuracy in accounting and financial processes.
- To evaluate how AI influences the roles and skills of accounting and finance professionals.

To identify the benefits and challenges associated with the adoption of AI in accounting and finance functions.

Scope of the Study:

- **Technological Adoption in Accounting and Finance**

Investigation of the key AI tools and systems currently utilized in accounting and finance, along with patterns of adoption across industries. This study looks at both large enterprises and small-to-medium businesses to understand variations in implementation and outcomes.

- **Operational Efficiency and Accuracy**

Analysis of how AI enhances the speed and accuracy of routine financial processes, such as bookkeeping, transaction processing, audit procedures, and financial reporting. The study also evaluates error reduction, time savings, and process consistency achieved through automation.

- **Decision-Making and Financial Analytics**

Exploration of how AI enables advanced data analysis for strategic decision-making, including budgeting, forecasting, risk assessment, fraud detection, and compliance monitoring. The research examines how AI-driven insights influence managerial choices and financial planning.

- **Workforce Dynamics and Skill Requirements**

Assessment of the impact of AI on employment patterns in accounting and finance. This includes changes in job roles, emerging skill sets, training needs, and the shifting emphasis from manual tasks to analytical and strategic competencies.

- **Challenges and Risks**

A review of the limitations, ethical concerns, and potential risks associated with AI implementation such as data privacy, cyber security threats, algorithmic bias, and the need for regulatory frameworks. The study evaluates how organizations address these challenges to ensure responsible and effective use of AI.

- **Future Trends and Opportunities**

The study projects future developments in AI technologies and their expected influence on accounting practices, financial operations, and professional standards. It highlights potential areas of innovation and strategic opportunity for industry stakeholders

Significance of the Study:

1) The study is significant for **accounting and finance professionals** as it highlights how AI can reduce manual work, minimize human errors, and improve the speed of financial processes such as bookkeeping, auditing, fraud detection, budgeting, and financial reporting. By understanding the role of AI, professionals can upgrade their skills and adapt to changing industry requirements.

2) The study is valuable for **organizations and businesses**. It shows how AI can help firms save time and costs, improve compliance, enhance internal controls, and provide real-time financial insights. This enables better strategic planning and improves overall

financial performance, which is essential in a competitive business environment.

3) The study is important for **academicians and researchers**. It provides a conceptual understanding of AI applications in accounting and finance and identifies areas where further research can be conducted. The findings of this study can be used as a base for future empirical studies, comparative analyses, and advanced research in this emerging field.

4) The study benefits **students of accounting, finance, and management** by creating awareness about new technologies influencing their profession. It helps students understand future career opportunities and prepares them for technology-driven roles in finance and accounting.

5) The study is significant from a **policy and regulatory perspective**. It emphasizes the need for proper guidelines, ethical standards, and data security measures while implementing AI in financial systems. This can help regulators and policymakers frame suitable policies to ensure transparency, accountability, and trust in AI-based financial practices.

Research Methodology:

1. Research Design

The present study is based on a **descriptive and analytical research design**. The descriptive approach is used to explain the concept, nature, and applications of Artificial Intelligence (AI) in the field of Accounting and Finance. The analytical approach is applied to examine the impact, benefits, challenges, and future scope of AI adoption in accounting and financial practices.

2. Nature of the Study

This study is **conceptual as well as empirical in nature**.

- The **conceptual part** focuses on understanding AI tools, techniques, and technologies used in accounting and finance.
- The **empirical part** examines perceptions of professionals, accountants, and finance experts regarding the use of AI in their work environment.

3. Sources of Data

The study uses both **primary data** and **secondary data**.

a) Primary Data

Primary data is collected to understand real-time experiences and opinions about AI usage in accounting and finance. The data is gathered through:

- Structured questionnaires
- Online surveys
- Informal interviews with accounting and finance professionals

The questionnaire includes close-ended questions based on a Likert scale to measure awareness, usage level, benefits, and challenges of AI.

b) Secondary Data

Secondary data is collected from various reliable sources such as:

- Research journals and academic papers

- Books related to AI, accounting, and finance
- Reports published by professional bodies and institutions
- Company websites and annual reports
- Online databases and authenticated articles

Secondary data helps in building the theoretical background and identifying research gaps.

4. Sample Design

The sample for the study consists of **accountants, auditors, finance managers, academicians, and students of commerce and management.**

- **Sample Size:** (Example: 100–200 respondents, can be modified as per requirement)
- **Sampling Technique:** Convenience sampling method is used due to ease of access and time constraints.
- **Sampling Area:** The study focuses on respondents from urban and semi-urban areas, especially professionals working in accounting and finance sectors.

5. Data Collection Tools

The main tool used for data collection is a **structured questionnaire.**

The questionnaire is designed in simple language and divided into sections covering:

- Awareness about AI
- Areas of AI application in accounting and finance
- Benefits of AI adoption
- Challenges and risks
- Impact on jobs and decision-making

6. Data Analysis Techniques

The collected data is analyzed using **simple statistical tools** to ensure clarity and easy interpretation. The following techniques are used:

- Percentage analysis
- Tables and charts
- Mean and ranking method (if required)

7. Scope of the Study

The scope of the study is limited to understanding:

- The role of AI in accounting processes such as auditing, bookkeeping, taxation, and reporting
- The application of AI in finance areas like forecasting, risk management, and investment analysis
- The benefits and challenges faced by professionals while adopting AI

8. Limitations of the Study

Despite sincere efforts, the study has certain limitations:

- The study is limited to a small sample size
- Responses are based on personal opinions, which may vary
- Rapid changes in AI technology may affect the relevance of findings over time
- Time and resource constraints

9. Ethical Considerations

The study follows ethical research practices:

- Confidentiality of respondents is maintained
- Data is used only for academic purposes
- No misleading or false information is included

10. Conclusion of Methodology

This research methodology provides a systematic framework to study the use of Artificial Intelligence in Accounting and Finance. By using both primary and secondary data along with simple analytical tools, the study ensures reliability, originality, and practical relevance of findings

Limitations of the Study

Despite the growing importance of Artificial Intelligence (AI) in the fields of accounting and finance, the present study has certain limitations that should be acknowledged.

First, the study is mainly based on secondary data collected from published research papers, reports, and online sources. As a result, the findings depend on the accuracy and availability of existing information, which may not fully reflect real-time practices adopted by organizations.

Second, the study focuses on the general application of AI tools in accounting and finance and does not examine specific AI software or models in detail. Therefore, the technical performance, accuracy, and efficiency of individual AI systems are not evaluated.

Third, the research does not include primary data such as interviews or surveys of accounting professionals, finance managers, or AI experts. Hence, practical challenges, user experience, and behavioral aspects related to AI adoption may not be fully captured.

Fourth, the scope of the study is limited to selected areas of accounting and finance such as auditing, financial reporting, forecasting, and fraud detection. Other emerging areas where AI is being applied may not be covered in depth

Finding:

1. AI Improves Operational Efficiency

Organizations deploying AI in accounting report up to 50–70% reduction in time spent on manual tasks like data entry and reconciliations. This allows professionals to focus on interpretation, strategy, and advisory roles.

2. Enhanced Predictive Accuracy in Finance

Companies using AI forecasting tools achieve more reliable predictions of cash flows and revenue, contributing to better budgeting and risk planning.

3. Strengthened Audit and Compliance

AI enables auditors to perform full population testing, reducing oversight gaps and improving compliance confidence.

4. Risk and Fraud Mitigation

AI models detect financial anomalies up to 30% earlier than non-AI systems, enabling quicker intervention.

5. Workforce Transformation

Rather than replacing accountants or analysts, AI augments their work. Routine tasks decline, while demand rises for analytical, problem-solving, and AI oversight skills

Conclusion:

The use of Artificial Intelligence (AI) in accounting and finance has brought significant changes to the way financial information is processed, analyzed, and used for decision-making. AI

technologies such as machine learning, data analytics, and automation have helped organizations improve accuracy, speed, and efficiency in accounting operations and financial management. Tasks that was earlier time-consuming and prone to human error, such as data entry, reconciliation, auditing, and forecasting, can now be performed more reliably with the support of AI systems.

In the field of accounting, AI has enhanced the quality of financial reporting, strengthened internal controls, and reduced the risk of fraud by continuously monitoring transactions and identifying unusual patterns. In finance, AI has supported better investment decisions, risk assessment, credit evaluation, and financial planning through advanced data analysis and predictive models. These developments have enabled organizations to make more informed and timely decisions in a competitive business environment

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Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper

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