



# AI FOR SUSTAINABLE GROWTH: SHAPING THE FUTURE OF COMMERCE (ICAISFC-2026)

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**KAAMADHENU** ARTS AND SCIENCE COLLEGE  
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**AI FOR SUSTAINABLE GROWTH: SHAPING THE FUTURE OF COMMERCE**  
**(ICAISFC-2026)**

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**COMMERCE ASSOCIATION**

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## **32. ARTIFICIAL INTELLIGENCE IN FINANCE AND ACCOUNTING**

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### **ABSTRACT**

Artificial Intelligence (AI) is changing the finance and accounting industry by increasing accuracy, efficiency, and decision-making capabilities. As the volume and complexity of financial data increase, manual analysis and accounting practices become challenging. AI tools such as machine learning, robotic process automation, and natural language processing enable organizations to perform manual tasks, financial forecasting, fraud detection, risk management, and improve accounting process quality. These tools handle routine tasks like data entry and reconciliation, allowing professionals to focus on strategic analysis. This paper examines the application of AI in finance and accounting, its advantages, challenges, and future implications. The paper concludes that while AI has greatly improved financial and auditing processes, it faces challenges such as skill gaps, high costs, and ethical concerns, requiring human oversight. However, it also presents challenges, including the "black-box"(process inputs to produce outputs without revealing their internal decision-making processes, making them unclear to users) nature of algorithms, ethical concerns regarding data privacy, and potential job displacement.

### **KEYWORDS:**

- Artificial Intelligence
- Finance
- Accounting
- Auditing
- Automation
- Fraud Detection

## **INTRODUCTION**

Finance and accounting are fundamental core areas that play a significant role in ensuring organizational transparency, accountability, and effective decision-making within organizations. With the rapid growth of digital transactions, complex financial instruments, and big data, traditional financial and accounting systems often struggle to process large volumes of data efficiently. This has led to the increased use of advanced technologies to improve financial management and accounting accuracy.

Artificial Intelligence (AI) has been identified as a technology that has the ability to address these issues by automating tasks and offering advanced analytical insights. AI technologies allow organizations to improve forecasting accuracy, strengthen internal controls, detect fraud, and enhance audit and accounting quality.

AI systems are different from traditional computer programs in the sense that they are capable of learning from data and improving their performance over time. In the field of accounting and finance, AI is used in the form of machine learning algorithms, robotic process automation, natural language processing, and predictive analytics. These technologies help in faster processing of financial data, accuracy of financial analysis, and detection of anomalies and irregularities in financial data. With the growing complexity of financial data, AI is playing an important role in the revolution of accounting and financial decision-making processes.

This paper explores the applications of Artificial Intelligence (AI) in finance and accounting, highlights its benefits, and examines the ethical and implementation challenges associated with its adoption.

## **STATEMENT OF THE PROBLEM**

The rapid growth in the number of digital transactions, complex financial instruments, and large volumes of financial data has made traditional finance and accounting systems increasingly inadequate. Manual and rule-based accounting processes often struggle with issues such as data processing delays, human errors, limited fraud detection capabilities, and ineffective real-time risk management. As organizations seek greater accuracy, efficiency, and transparency in financial reporting and auditing, the need for advanced technological solutions has become increasingly critical.

Artificial Intelligence has emerged as a promising solution capable of automating routine accounting tasks, improving financial forecasting, fraud detection, and

strengthening audit quality. However, despite its growing adoption, there is limited consolidated understanding of how AI is applied across various finance and accounting functions, the benefits it offers, and the challenges it presents. Issues such as high implementation costs, skill gaps, ethical concerns, data privacy risks, algorithmic bias, and the “black-box” nature of AI systems raise serious concerns about accountability and governance.

Therefore, the problem addressed in this study is the lack of comprehensive and systematic analysis of Artificial Intelligence applications in finance and accounting, along with an evaluation of their benefits, challenges, and future implications. Understanding these aspects is essential for organizations, professionals, and policymakers to effectively and responsibly integrate AI into financial and accounting practices.

### **OBJECTIVES OF THE STUDY**

The main objective of this study is to examine the role and impact of Artificial Intelligence in finance and accounting. The specific objectives are as follows:

1. To understand the concept and key technologies of Artificial Intelligence used in finance and accounting.
2. To analyze the major applications of AI in finance and accounting, including financial forecasting, fraud detection, risk management, auditing, and automation.
3. To examine the benefits of adopting Artificial Intelligence in finance and accounting functions in terms of efficiency, accuracy, and decision-making.
4. To identify the challenges and ethical issues associated with the implementation of AI in finance and accounting.
5. To explore the future scope and potential developments of Artificial Intelligence in finance and accounting.

### **LITERATURE REVIEW**

The literature on Artificial Intelligence in finance and accounting highlights its growing significance in transforming traditional financial practices. Their work identifies finance and accounting as key functional areas benefiting from AI-driven automation and intelligence.

- **Russell and Norvig (2021)** provide a foundational understanding of AI concepts, emphasizing machine learning and pattern recognition as critical

enablers of intelligent financial systems. Their framework supports the application of AI in complex financial environments characterized by large datasets and dynamic conditions.

- Research by **Kokina and Davenport (2017)** explores the impact of AI on accounting processes, highlighting improvements in fraud detection, internal controls, and risk assessment. The authors argue that AI-based systems outperform traditional rule-based approaches due to their adaptive learning capabilities.
- Financial forecasting and supply chain analytics are addressed by **Waller and Fawcett (2013)**, who show that predictive analytics and machine learning significantly improve forecasting accuracy and strategic planning. Their findings support the growing reliance on AI for financial planning and performance management.
- Ethical and governance concerns are examined by **Floridi et al. (2018)**, who stress the importance of transparency, accountability, and explainable AI. The study highlights risks related to algorithmic bias, data privacy, and regulatory compliance, underscoring the need for strong governance frameworks and human oversight.

## RESEARCH METHODOLOGY

This study adopts a qualitative and descriptive research design to examine the role of Artificial Intelligence in finance and accounting. The research is based on a systematic review of existing literature, including academic journals, books, conference papers, industry reports, and credible online sources related to AI applications in finance, accounting, and auditing.

### Research Design

The study follows a descriptive research approach, as it aims to describe and analyze existing applications, benefits, challenges, and future prospects of Artificial Intelligence in finance and accounting. This approach is appropriate because the research does not involve hypothesis testing or primary data collection but focuses on understanding trends and developments in the field.

### Data Sources

The study relies on secondary data collected from reputable sources such as:

- Peer-reviewed academic journals
- Textbooks on Artificial Intelligence and accounting
- Research articles from databases
- Reports published by professional accounting bodies and financial institutions

### **Data Collection Method**

Data were collected through an extensive literature review, focusing on published studies related to:

- AI tools used in finance and accounting
- Financial forecasting, fraud detection, and auditing automation
- Benefits and challenges of AI adoption
- Ethical, regulatory, and governance issues

### **Data Analysis Technique**

The collected data were analyzed using content analysis, where key themes, patterns, and findings from previous studies were identified and organized. The analysis focused on comparing different viewpoints, identifying common benefits and challenges, and synthesizing insights related to AI's impact on finance and accounting practices.

## **APPLICATIONS OF AI IN FINANCE AND ACCOUNTING**

- **Financial Forecasting and Planning**

AI-based predictive analytics models analyze historical financial data, economic indicators, and market trends to forecast revenues, expenses, and cash flows. These

models capture complex patterns that traditional forecasting methods may overlook, thereby improving budgeting accuracy and strategic financial planning.

- **Fraud Detection and Risk Management**

Fraud detection is one of the most prominent successful applications of AI in finance. Machine learning algorithms are used to continuously monitor transactions to identify unusual patterns and possible fraud in real time. AI models are able to learn new patterns of fraud and improve the effectiveness of fraud detection. AI also enhances credit risk, market risk, and operational risk assessment by analyzing large datasets in real time.

- **Algorithmic Trading and Investment Analysis**

AI is increasingly being used in algorithmic trading to analyze market data, make trading decisions, and manage investment portfolios at high speed. AI-powered investment solutions analyze stock price movements, trading volumes, and market sentiment to maximize returns while minimizing risk exposure.

- **Automated Accounting and Book keeping**

AI automates traditional accounting functions such as journal entries and ledger posting, invoice processing and expense classification, bank reconciliation and accounts payable/receivable etc.

- **Financial Reporting and Analysis**

AI enhances financial reporting by generating real-time financial statements, identifying trends, anomalies, and inconsistencies, supporting multi-dimensional financial analysis etc.

- **Taxation and Compliance**

AI applications in taxation includes automated tax calculations and filings, interpretation of complex tax regulations, identification of tax-saving opportunities etc. Cognitive tax systems reduce compliance risks and ensure timely adherence to regulatory requirements.

- **Environmental, Social, and Governance (ESG) Reporting**

AI automates ESG data collection and analysis, helping organizations in Track sustainability performance, meet regulatory and stakeholder expectations, improve transparency in non-financial reporting etc.

## **BENEFITS OF AI IN FINANCE AND ACCOUNTING**

The adoption of AI in finance and accounting offers several advantages. AI improves accuracy and efficiency by automating data-intensive processes and reducing human error. Improved fraud analysis and real-time risk management capabilities strengthen internal controls and regulatory compliance. Additionally, automation reduces operational costs and improves productivity.

AI also enhances audit quality and financial transparency by enabling continuous monitoring and in-depth data analysis. By automating routine tasks, AI allows finance

and accounting professionals to focus on judgment-based, analytical, and strategic activities, thereby increasing the overall value of finance and accounting functions.

### **CHALLENGES AND ETHICAL CONSIDERATIONS**

Although AI has numerous advantages, AI implementation in finance and accounting faces several challenges. High implementation costs, data quality issues, and cyber security risks are some of the factors that might slow down the adoption process. In addition, adhering to the ever-changing regulatory requirements is a complex process, as the law is always behind the technology.

Ethical concerns related to algorithmic bias, transparency, and accountability are particularly significant. Biased training data can result in unfair financial decisions, while AI models raise concerns about explainability and responsibility. Strong governance frameworks, explainable AI systems, and human oversight are essential to ensure ethical and responsible AI use.

### **SCOPE OF THE STUDY**

The scope of this research is limited to the application of Artificial Intelligence in finance and opaque accounting functions, including forecasting, fraud detection, risk management, auditing, and automation. Specifically, the study focuses on key areas such as financial forecasting, fraud detection, risk management, auditing, and process automation, where AI technologies like machine learning, robotic process automation, and predictive analytics are increasingly being adopted. The research highlights how these technologies contribute to improved efficiency, accuracy, decision-making, and internal control mechanisms within financial and accounting systems.

This study is primarily conceptual and descriptive in nature, relying on secondary data obtained from existing literature, including academic journals, books, and industry reports. As such, the research does not involve empirical testing, case studies, surveys, interviews, or primary data collection. Consequently, the findings are based on the analysis and interpretation of previously published studies rather than real-time organizational data. Furthermore, the scope does not extend to the quantitative measurement of AI performance, cost–benefit analysis, or sector-specific implementation across different industries or geographical regions.

## **LIMITATIONS OF THE STUDY**

As this study is based entirely on secondary data, its findings are largely dependent on the availability, reliability, and accuracy of existing literature, including academic journals, books, and industry reports. Any gaps, inconsistencies, or biases present in these sources may influence the interpretation and conclusions of the research.

The field of Artificial Intelligence is evolving rapidly, with continuous advancements in technologies, tools, and regulatory frameworks. As a result, some of the findings and discussions presented in this study may become less relevant over time, particularly as new AI applications and improved models emerge in finance and accounting practices.

The study also does not incorporate primary data collection methods such as surveys, interviews, or case studies. This limits the ability to capture real-time organizational experiences, practical challenges, and measurable performance outcomes associated with AI

implementation. Consequently, the research relies on theoretical and previously documented evidence rather than direct empirical validation. Additionally, the absence of quantitative analysis restricts the assessment of cost–benefit implications, efficiency gains, and productivity improvements resulting from AI adoption.

## **FUTURE TRENDS AND OPPORTUNITIES**

Future trends and opportunities in AI are expected to further transform finance and accounting functions. AI-enhanced CFO dashboards will provide real-time strategic insights by integrating financial, operational, and market data, enabling faster and more informed decision-making. Automated Environmental Social Governance (ESG) reporting will improve sustainability tracking by collecting, analyzing, and validating non-financial data with greater accuracy and transparency. AI based treasury optimization systems will enhance liquidity management by forecasting cash flows, optimizing working capital, and managing financial risks more effectively.

Cognitive tax systems use advanced AI tools such as machine learning, natural language processing (NLP), and data analytics to interpret complex and frequently changing tax regulations. One of the most important aspects is how cognitive tax systems assist in the automation of tax compliance and planning, which is possible as complex tax regulations can be understood, opportunities for improving taxes

identified, and the risk of non-compliance or human errors reduced. The integration of artificial intelligence with decentralized finance platforms will create new financial instruments and liquidity models, offering innovative approaches to lending, investment, and asset management. Moreover, the integration of AI technology and the use of decentralized finance is providing opportunities to develop new financial tools, which is influencing the way finance is being looked at in the future.

## CONCLUSION

Artificial Intelligence is transforming the finance and accounting sectors by improving efficiency, accuracy, and analytical power. AI-driven systems improve financial forecasting, fraud detection, accounting automation, and audit quality. However, the ethical, regulatory, and governance issues need to be handled carefully to ensure proper use of AI. A balanced

approach is required to combine AI technology with human knowledge and judgment to tap the full potential of AI in finance and accounting. The applications of AI in finance and accounting extend beyond automation to strategic transformation. AI enhances efficiency, accuracy, risk management, and decision-making while enabling continuous monitoring and predictive analysis. As technology advances, AI will play an increasingly critical role in building intelligent, transparent, and sustainable financial systems.

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