



**Original Article**

**AI IN ACCOUNTING AND FINANCE: TRANSFORMING REPORTING, RISK AND DECISION MAKING**

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**Abstract:**

Today, technology is playing a significant role in this 21st century. Artificial Intelligence (AI) is increasingly transforming the fields accounting routine tasks, improving accuracy identifying irregularities & supporting predictive as well as prescriptive decision-making Application such as invoice processing ,audit analytics, credit evaluation, Fraud detection, Portfolio optimization & Regulatory Compliance influence, how AI Is changing the way organization measure performance, manage risk & allocate Financial resources.

This Research paper explores major AI- Technologies- including machine learning, natural language processing, robotic process automation & generative AI- and Examines their use in benefits & limitations of these technologies, governance requirements, and emerging developments in the field. The study also highlights ethical and legal concerns, particularly issues related to transparency bias, data privacy and accountability.

This paper concludes that AI can provide substantial value when implemented with strong controls, reliable data, explainable practices and a human –in –the loop approach to maintain professional judgment & trust.

**Keywords:** Artificial Intelligence, Accounting Finance, Audit, Fraud, detection, Machine learning, NLP, RPA, Governance, Explainable AI.

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**Introduction:**

Accounting and finance traditionally depend on structured rules, numerical accuracy, and compliance. Over time, enterprise systems like ERP, accounting software, and business intelligence tools helped professionals record transactions and

produce reports efficiently. However, modern finance operates in a complex environment: high transaction volumes, real-time markets, evolving regulation, multi-country operations, and increasing fraud and cyber risks. Organizations also face



pressure for faster closing cycles, more accurate forecasts, and more strategic financial insights.

AI has emerged as a powerful response to these demands. Unlike traditional automation, AI can learn patterns from data, classify transactions, detect anomalies, and make probabilistic predictions. In accounting, AI can automatically process invoices, reconcile accounts, flag unusual journal entries, and assist auditors by analyzing entire populations of transactions rather than small samples. In finance, AI supports credit decisioning, fraud detection, risk management, algorithmic trading, customer service, and personalized financial advice.

Yet, AI adoption is not purely technical. It raises questions about data governance, ethics, auditability, regulation, and professional responsibility. Financial decisions are high-stakes; errors can lead to large losses, legal penalties, or reputational damage. Therefore, AI in accounting and finance must be implemented with strong oversight, transparency, and controls. This paper explores these developments and provides an integrated view of how AI is transforming accounting and finance while emphasizing responsible adoption.

#### **Objective:**

1. To understand the concept of Artificial Intelligence and its key technologies used in accounting and finance.
2. To know the application of AI in financial activities such as fraud detection, risk management and decision making.
3. To Identify the benefits, challenges, Limitations & risk associated with the adoption of AI in Accounting finance.
4. To Explore future trends and opportunities of AI in the accounting and finance sector.

#### **Research Methodology:**

The present research paper is based on the secondary data. The data is collected from various books, journals, research articles and websites from internet.

The Study aims to describe the concept of AI technologies ,their application on accounting and finance ,benefits and challenges and future trends. The inferences are based on secondary data.

#### **AI Technologies Relevant To Accounting And Finance:**

- Artificial Intelligence (AI) technologies are increasingly transforming accounting and finance by improving accuracy, efficiency, and decision-making.
- Machine Learning (ML) uses historical data to identify patterns and make predictions. It is widely used for credit scoring, risk forecasting, expense classification, fraud detection, and cash flow prediction.
- Natural Language Processing (NLP) helps computers understand human language and is useful for analyzing financial news, reading contracts, extracting important terms, preparing compliance reports, and supporting catboats.
- Robotic Process Automation (RPA), when combined with AI, automates repetitive tasks such as data entry, report generation, and invoice processing, reducing time and human errors.
- Generative AI (GenAI) assists in drafting reports, writing disclosures, interpreting accounting standards, and preparing training materials, though its outputs must be verified for accuracy.
- Knowledge graphs and expert systems help track relationships between transactions and detect fraud using rule-based logic.



### **AI Applications In Accounting:**

- In accounting, AI has many practical applications. In Accounts Payable, AI extracts invoice details, matches invoices with purchase orders, and detects duplicates, and routes approvals, making the process faster and more accurate.
- In Accounts Receivable, AI predicts late payments and suggests better collection strategies.
- AI also improves general ledger controls by identifying unusual journal entries and strengthening internal controls.
- Reconciliation and month-end closing activities are automated by matching large volumes of transactions quickly.
- In auditing, AI analyzes all transactions instead of samples, supports risk assessment, and enables continuous monitoring, allowing auditors to focus more on analysis.
- AI also helps in tax and compliance by correctly classifying transactions and reducing errors in tax returns.

### **AI Applications In Finance:**

- In finance, AI plays an important role in fraud detection and anti-money laundering by identifying suspicious patterns in transactions.
- It improves credit scoring and lending decisions by analyzing wider customer data.
- Financial planning and forecasting become more accurate with AI through the use of historical trends and market indicators.
- AI is also used in portfolio management and algorithmic trading to optimize investments and manage risks.
- Risk management teams use AI to predict defaults and monitor operational risks.
- Additionally, banks use Chatbot's and virtual assistants to provide customer support and

personalized financial advice. Overall, AI makes accounting and finance processes faster, smarter, and more reliable while supporting better business decisions.

### **Benefits Of AI In Accounting And Finance:**

1. **Saves Time and Money:** AI does routine work like data entry, checking records, and making reports automatically. This reduces manual work and lowers costs. Finance staff get more time to think, analyze, and plan.
2. **Fewer Mistakes and More Accuracy:** AI reduces human mistakes while entering data. It quickly finds errors and unusual entries, so financial records become more correct and reliable.
3. **Helps in Better Decisions:** AI studies past data and predicts future trends. It helps companies plan income, control expenses, manage cash, and use money wisely.
4. **Better Control Over Fraud and Risk:** AI can notice suspicious transactions early. This helps prevent fraud, financial losses, and risks.
5. **Faster Reporting and Real-Time Insights:** AI continuously checks financial data and automates reporting. This helps companies prepare reports faster and see updated information almost in real time, allowing managers and investors to take quick and better decisions.

### **Challenges And Limitations Of AI In Accounting And Finance:**

1. **Data Quality and Integration:** AI works properly only when data is clean and correct. In reality, financial data is stored in different systems and is often incomplete or inconsistent. Poor data can give wrong results.
2. **Lack of Explainability and Transparency:** Some AI systems work like a “black box.” They



give answers, but we cannot clearly understand how they reached those answers. In finance, decisions like loan approval or fraud detection must be explained to auditors, regulators, and customers.

3. **Bias and Fairness Issues:** AI can copy past discrimination from old data. For example, if biased data is used, AI may reject loan applications unfairly. Therefore, regular checks, fairness testing, and careful model design are very important.
4. **Regulatory and Legal Risks:** Banks and financial companies must follow laws related to customer safety, data privacy, and risk control. AI systems often need proper records, testing, and regular checking to meet legal and regulatory requirements.
5. **Cybersecurity and AI Attacks:** AI systems can be attacked by hackers through fake or harmful data, tricking the system, or misusing AI prompts. Therefore, finance organizations must protect their data, systems, and AI results from cyber threats.
6. **Overdependence and Professional Judgment:** AI helps in decision-making, but it should not fully replace human thinking. Too much dependence on AI can cause mistakes, especially during unexpected situations like financial crises where AI models may not work properly.

#### **Governance, Controls, And Responsible Use Of AI:**

1. **Model Risk Management (MRM):** Organizations must follow proper steps while creating and using AI models. This includes clearly deciding why the model is used, keeping training and testing records, checking performance regularly, getting independent

approval, and updating the model from time to time.

2. **Human-in-the-Loop:** Important decisions should always be checked by humans. This is especially necessary in areas like loan approvals, fraud checking, and financial reporting where mistakes can have serious effects.
3. **Audit Trails and Documentation:** AI systems should keep complete records of data used, model versions, results produced, and user actions. These records help during audits and when regulators examine the system.
4. **Ethical and Privacy Protection:** Companies must use data legally and take permission when required. They should protect personal data by collecting only necessary data, encrypting information, and hiding identities. Ethical committees are important to supervise responsible AI use.
5. **Controls for Generative AI:** Generative AI needs extra safety measures. Sensitive information should not be shared, AI outputs must be checked for correctness, standard formats should be used for disclosures, false information should be avoided by using trusted data sources, and AI-generated content should be clearly identified.

#### **Impact on Professionals and Skills:**

AI changes job roles but does not remove the need for skilled professionals. Accountants and finance professionals must learn new skills such as understanding data, analyzing reports and dashboards, knowing AI risks, following ethical rules, and explaining AI results clearly to others.

AI mainly automates routine work and increases demand for analytical, advisory, and governance-related skills.



## **Emerging Trends And Future Directions In AI For Accounting And Finance:**

The application of Artificial Intelligence in accounting and finance is evolving rapidly, moving beyond basic automation toward intelligent, predictive, and strategic systems. Several emerging trends indicate how AI will shape the future of the profession, while future directions highlight areas of growth, innovation, and responsibility.

### **1. Continuous Accounting and Real-Time Reporting:**

One of the most significant emerging trends is continuous accounting, where AI-enabled systems process transactions and update financial records in real time. Instead of periodic month-end or year-end closing, organizations will rely on AI to maintain continuously updated ledgers. This will enable faster decision-making, timely compliance, and improved financial transparency.

### **2. Explainable and Transparent AI (XAI):**

As AI-driven decisions increasingly affect audits, credit approvals, and compliance, there is growing demand for explainable AI. Future AI systems will focus on transparency, allowing accountants, auditors, and regulators to understand how models reach conclusions. This trend is essential to build trust, meet regulatory requirements, and support ethical decision-making.

### **3. Integration of AI with ESG and Sustainability Reporting:**

AI is expected to play a major role in Environmental, Social, and Governance (ESG) reporting. Future systems will automatically collect non-financial data, track sustainability metrics, identify inconsistencies, and verify disclosures. AI will also help detect greenwashing and improve the credibility of sustainability reports.

### **4. Advanced Generative AI for Financial Analysis:**

Generative AI is emerging as a powerful tool for drafting financial reports, management commentary, audit documentation, and policy interpretations. In the future, GenAI will act as a financial co-pilot—summarizing complex data, explaining trends in simple language, and supporting scenario analysis. However, strong validation mechanisms will be required to prevent misinformation.

### **5. Human-AI Collaboration Models:**

Rather than replacing professionals, the future of AI in accounting and finance emphasizes human-in-the-loop systems. Accountants and finance managers will increasingly supervise AI outputs, apply professional judgment, and handle exceptions. This collaboration will redefine job roles toward advisory, analytical, and governance-oriented functions.

### **6. AI-Driven Regulatory Technology (RegTech):**

AI-powered RegTech solutions will expand to monitor compliance continuously, interpret regulatory updates, and assess their impact automatically. Future systems may proactively alert organizations about compliance risks and recommend corrective actions, reducing penalties and regulatory burdens.

### **7. Privacy-Preserving and Secure AI Systems:**

With rising concerns over data privacy and cyber threats, future AI applications will adopt privacy-preserving techniques such as federated learning, encryption, and secure data-sharing frameworks. This trend is particularly important for financial institutions handling sensitive customer data.

### **8. Upskilling and Transformation of the Accounting Profession:**

The future direction of AI adoption will demand new skills from accounting and finance



professionals. Data analytics, AI literacy, ethical reasoning, and strategic thinking will become core competencies. Professional bodies and educational institutions are expected to redesign curricula to prepare future-ready professionals.

### **9. Global Regulatory Frameworks for AI:**

Governments and international bodies are actively developing regulations for AI usage. In the future, standardized AI governance frameworks will guide financial institutions on model risk management, accountability, fairness, and transparency, ensuring responsible adoption across borders.

### **Conclusion:**

AI is transforming accounting and finance by automating repetitive processes, enhancing control systems, enabling deeper analytics, and improving decision-making speed. In accounting, AI supports invoice automation, reconciliation, anomaly detection, audit analytics, and compliance. In finance, it strengthens fraud and AML detection, improves credit scoring, enhances forecasting, supports investment strategies, and optimizes risk management. The benefits—efficiency, accuracy, and insight—are significant. However, the risks—bias, lack of explainability, data issues, cyber threats, and overreliance—require serious governance.

Organizations that succeed with AI will not treat it as a plug-and-play technology. They will invest in data quality, model validation, ethical oversight, and training for finance teams. A human-in-the-loop approach will remain essential, ensuring that professional judgment, accountability, and trust are preserved. Ultimately, AI can become a powerful co-pilot for finance professionals—

improving both operational excellence and strategic value—if adopted responsibly.

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