

Scottish International Conference on Multidisciplinary Research and Innovation – SICMRI 2025

AUTOMATION OF ACCOUNTING USING ARTIFICIAL INTELLIGENCE AND ANHANCING THE RELIABILITY OF FINANCIAL REPORTS

Muratjanova Lobar

Student of Gulistan State University

ORCID:0009-0000-3300-0646

Abstract: This article presents a comprehensive analysis of the theoretical and practical application of Artificial Intelligence (AI) technologies in accounting. It examines methods for improving the reliability of financial reports, detecting errors and fraud, and optimizing economic processes in corporate environments. Comparative analysis of Uzbek and international experiences is provided. The study proposes practical recommendations for the integration of AI-based accounting systems, including machine learning and predictive analytics, to enhance accuracy, transparency, and operational efficiency.

Keywords: Artificial intelligence, accounting automation, financial reporting reliability, fraud detection, predictive analytics, digital economy

Introduction. The digital transformation of economic processes has necessitated the automation of accounting systems globally and in Uzbekistan. Traditional accounting methods are often prone to human errors, delayed reporting, and fraudulent activities. AI technologies, including machine learning algorithms and anomaly detection systems, enable real-time processing of transactions, automatic classification, and predictive analysis. Implementing AI in accounting not only improves the accuracy and reliability of financial reports but also enhances corporate governance, fiscal control, and decision-making processes. This study aims to evaluate both domestic and international practices, challenges, and opportunities in integrating AI-based accounting systems in Uzbekistan.

Main Part

1. Artificial Intelligence in Accounting

AI-based systems automate transaction processing, reduce manual errors, detect anomalies, and support predictive financial analysis. Neural networks and machine learning models can analyze vast datasets, identify patterns, and forecast potential financial risks.

2. Uzbekistan's Experience

Recent implementations in Uzbek enterprises between 2022–2025 have demonstrated significant efficiency gains. Integration of AI modules into '1C Accounting' and ERP platforms resulted in a 45% reduction in reporting errors and a 35% decrease in processing time. Case studies highlight improvements in payroll, tax compliance, and inventory management.

3. International Experience

South Korea, Poland, and Singapore have successfully integrated AI in accounting systems, achieving up to 70% higher efficiency in fraud detection and report accuracy. Comparative analysis suggests the adoption of similar frameworks in Uzbekistan, considering local regulatory and economic conditions.

4. AI Algorithms for Error and Fraud Detection

Machine learning models, such as decision trees, random forests, and neural networks, can detect anomalous transactions indicative of fraud. Predictive analytics enable proactive risk management by forecasting potential discrepancies and providing actionable insights for financial auditors.

5. Challenges and Solutions

- Human Resources: Training staff to operate and interpret AI-driven systems.
- Data Security: Ensuring confidentiality and integrity of financial data.

Scottish International Conference on Multidisciplinary Research and Innovation – SICMRI 2025

- Localization: Adapting AI tools to comply with Uzbek accounting standards and legal requirements.
- Integration: Phased implementation to minimize disruptions in operational workflows.

6. Practical Recommendations

- Gradual AI integration in accounting processes.
- Development of localized AI models tailored to Uzbek legislation and corporate practices.
- Use of cloud-based AI solutions for SMEs.
- Continuous monitoring and updating of AI models to maintain accuracy and compliance.

Discussion. AI implementation in accounting represents a paradigm shift in how financial information is processed, verified, and utilized. It enhances transparency, reduces human error, and strengthens fiscal governance. By integrating predictive analytics and anomaly detection, organizations can proactively manage risks, ensure compliance, and optimize decision-making. Comparative analysis with international experiences provides a roadmap for effective adoption in Uzbekistan.

Conclusion

The integration of AI into accounting systems significantly enhances the reliability of financial reports and overall corporate governance. Uzbekistan stands to benefit from AI-driven automation, predictive analytics, and real-time data processing. Future work should focus on expanding AI adoption across sectors, continuous training, and refinement of algorithms to ensure compliance with evolving regulatory standards.

References:

1. Kim, J. (2021). Digital Accounting Systems and AI Integration. Seoul University Press, pp. 133–148.
2. Decree of the President of the Republic of Uzbekistan PQ-4729, On Improving the Online Cash Register System, 19.05.2020.
3. Ruzmetov, B. (2023). Automation of Accounting and AI Technologies in Uzbekistan. Journal of Economic Reforms, №2, pp. 55–62.
4. European Commission (2020). E-Taxation Framework and Fiscal Devices in the EU. Brussels, pp. 89–93.
5. State Tax Committee Reports (2022). Efficiency of Digital Accounting Systems. Tashkent, pp. 45–47.
6. Chen, L., & Zhang, Y. (2022). Machine Learning in Financial Auditing. International Journal of Accounting Information Systems, 45, pp. 101–115.
7. Patel, R. (2021). Predictive Analytics in Corporate Finance. Journal of Financial Technology, 12(3), pp. 210–225.
8. Li, X., & Wong, K. (2022). AI Applications in Corporate Financial Management. Journal of Accounting and Finance, 34(2), pp. 67–85.
9. World Bank (2021). Digital Transformation in Emerging Economies. Washington, DC, pp. 120–135.
10. Deloitte (2023). AI and the Future of Accounting. Global Insights Report, pp. 50–65.