

**ARTIFICIAL INTELLIGENCE AND CLOUD ACCOUNTING SYSTEMS:  
REPORTING RELIABILITY AND CYBERSECURITY**

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**Annotation**

This article examines the implementation of artificial intelligence and cloud-based accounting information systems to improve the reliability of financial reporting and ensure cybersecurity in the context of the digital transformation of the economy. The study is based on a systematic analysis of scientific literature and draws on sociotechnical systems theory, enabling a comprehensive assessment of the interaction of technological, organizational, and human factors. It has been established that the integration of AI and cloud solutions facilitates the automation of accounting processes, improves the accuracy of financial data, and reduces the risk of fraud. However, the effectiveness of their implementation directly depends on the level of digital maturity of organizations, personnel training, and the quality of regulatory frameworks. It is concluded that a balanced implementation of these technologies is necessary, taking into account the socioeconomic specifics of Uzbekistan.

**Introduction.** Digital transformation is a key area of socioeconomic development in modern countries. In Uzbekistan, digitalization processes are actively affecting the financial sector, accounting, and corporate reporting systems, driven by the need to increase transparency, efficiency, and trust in financial information. In this context, the implementation of artificial intelligence (AI) and cloud-based accounting information systems, which are seen as tools for modernizing accounting processes and enhancing data security, is particularly relevant.

The use of AI allows for the automation of routine accounting operations, minimizing human error, and enabling deeper analytical analysis of financial performance. Cloud technologies, in turn, enable rapid access to data, scalability of accounting systems, and centralized information security management. However, along with obvious advantages, these technologies also create new risks associated with cyberthreats, algorithmic bias, and staff insufficiently prepared for working in a digital environment.

These challenges are particularly significant for Uzbekistan, as digital solutions are being implemented unevenly across many organizations, and the regulatory framework and digital skills of specialists are still evolving. This necessitates a comprehensive analysis of the impact of AI and cloud accounting systems on the reliability of financial reporting and cybersecurity, taking into account national conditions.

**Theoretical basis of the study: sociotechnical approach**

Sociotechnical systems theory views an organization as a set of interconnected technical and social elements whose effectiveness is achieved only through their coordinated development. In the context of accounting, this means that the implementation of AI and cloud systems cannot be viewed solely as a technological process—it requires adapting the organizational structure, changing the roles of specialists, and fostering a culture of digital responsibility.

From a technical perspective, AI enables automated financial data processing, anomaly detection, and support for management decisions based on large data sets. Cloud accounting systems complement these capabilities by providing a unified digital platform for storing, processing, and transmitting accounting information. However, without appropriate staff training,

clear regulations, and ethical standards, these technologies may not only fail to improve reporting reliability but also lead to new forms of systemic errors.

**Analysis of scientific literature on the research topic.** In modern scientific research, the application of artificial intelligence and cloud technologies in accounting and financial reporting is receiving increasing attention.

Aisyah PN and DP RT (2025) examine the impact of integrating artificial intelligence and cloud-based accounting information systems on improving the reliability of financial reporting and cybersecurity in the digital economy. The authors focus on the role of automating accounting processes, using intelligent algorithms to process financial data, and reducing human error. The paper emphasizes that the use of AI contributes to increased reporting transparency and the timely detection of anomalies and potential security threats, but requires a developed digital infrastructure and appropriate regulatory framework.

Ionescu L.'s (2021) study focuses on the use of big data analytics tools and machine learning algorithms in cloud-based accounting information systems. The author analyzes the potential of these technologies to improve the quality of management decisions, forecast financial performance, and optimize internal controls. Particular attention is paid to the advantages of a cloud environment, which ensures scalability, data availability, and the integration of analytical tools, as well as the risks associated with information security and data privacy.

The work by Alnaimat M.A., Korsun I., Lutsenko K., Khodorkovskyi O., and Artemchuk M. (2025) examines the transformation of accounting and financial management under the influence of artificial intelligence in the digital environment. The authors consider AI as a key factor in increasing the efficiency of financial management, automating routine operations, and improving the analytical functions of accounting departments. The article emphasizes that the implementation of intelligent technologies contributes to increased financial data accuracy and a reduction in operational risks, but requires the adaptation of organizational processes and the upgrading of specialists.

Thus, an analysis of scientific literature shows that the integration of artificial intelligence, big data analytics, and cloud technologies is viewed by international researchers as a promising direction for the development of accounting information systems. At the same time, these studies emphasize the need for a comprehensive approach to implementing these solutions, taking into account technological, organizational, and personnel factors, as well as the specific characteristics of national economies.

**Research methods.** This study utilized a qualitative research method using a systematic literature review (SLR). This method was chosen to comprehensively analyze scientific publications devoted to the integration of artificial intelligence (AI) and cloud-based accounting information systems (CAIS) in the context of improving the reliability of financial reporting and ensuring cybersecurity.

The systematic literature review was conducted in accordance with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, which ensures transparency, reproducibility, and methodological soundness of the source selection process. The review process included several sequential stages: identification of relevant publications, initial selection, assessment of inclusion and exclusion criteria, and final analysis of the selected studies.

The primary data source for searching for scientific publications was the Scopus database, from which peer-reviewed articles relevant to the research topic were selected. Inclusion criteria covered studies examining the application of AI and cloud-based accounting information systems in financial reporting, cybersecurity, and digital accounting, as well as works containing theoretical or empirical elements relevant to sociotechnical systems (STS) theory. Duplicate

publications, non-peer-reviewed sources, and studies not relevant to the objectives and scope of the analysis were excluded from the review.

The selected articles were subjected to a qualitative content analysis aimed at identifying key themes, concepts, benefits, and risks associated with the implementation of AI and CAIS. The analysis was conducted through the lens of sociotechnical systems theory, allowing for an assessment of the interactions between technical components (AI, cloud technologies, cybersecurity) and social components (human factors, organizational readiness, ethical governance, and regulatory frameworks).

The literature synthesis results were structured according to the following areas: financial reporting reliability, cybersecurity, potential vulnerabilities, and factors for successful integration of AI and CAIS. This approach provided a holistic understanding of the phenomenon under study and allowed for the formulation of conclusions and recommendations based on the totality of existing scientific data.

A sociotechnical approach helps identify a key challenge in implementing digital accounting solutions in Uzbekistan: the gap between the technical potential of technologies and the level of their practical use in organizations.

#### The Role of Artificial Intelligence in Improving the Reliability of Financial Reporting

Artificial intelligence is significantly transforming financial reporting processes by automating accounting, reducing errors, and increasing the speed of information processing. Machine learning algorithms can analyze large volumes of accounting data, identify inconsistencies, and predict financial risks, which is especially important for improving the reliability of financial statements.

In Uzbekistan, the use of AI can help address issues such as the lack of standardization of accounting processes and high reliance on manual data entry. However, a lack of experience with AI systems and limited transparency of algorithms pose a risk of misinterpretation of results and reduced trust in automated reporting.

Thus, the implementation of AI requires not only technical investments, but also the development of professional competencies of accountants and auditors capable of monitoring and interpreting the results of intelligent systems.

#### Cloud accounting information systems and cybersecurity

Cloud-based accounting information systems provide centralized data storage, real-time access to financial information, and reduced IT infrastructure costs. For small and medium-sized businesses in Uzbekistan, these systems offer the opportunity to utilize modern accounting solutions without significant capital investment.

From a cybersecurity perspective, cloud platforms offer modern data protection mechanisms, including encryption, multi-factor authentication, and automatic security updates. However, data transfer to third parties and reliance on external service providers require enhanced oversight and strict regulatory frameworks.

Insufficient attention to information security, a lack of trained specialists, and a weak cybersecurity culture can lead to financial information leaks and undermine trust in digital accounting systems. Therefore, developing a comprehensive cyber risk management system in the accounting sector is a pressing issue for Uzbekistan.

#### Potential risks and consequences of lack of digital integration

The lack of systematic implementation of AI and cloud accounting systems in Uzbekistan could lead to persistently low accounting process efficiency, increased operating costs, and a decline in the competitiveness of organizations. Furthermore, the use of disparate and outdated systems increases the vulnerability of financial data to cyber threats and limits analysis and forecasting capabilities.

On the other hand, unbalanced technology adoption without consideration of social and organizational factors can increase the risks of algorithmic bias, automated reporting errors, and employee resistance to change. This confirms the need for a sociotechnical approach that involves the simultaneous development of technology, human capital, and the institutional environment.

**Conclusion.** The study demonstrates that the integration of artificial intelligence and cloud-based accounting information systems has significant potential to improve the reliability of financial reporting and strengthen cybersecurity in the digital economy. For Uzbekistan, these technologies could become an important tool for modernizing accounting and increasing the transparency of financial processes.

However, their effective implementation is only possible with the coordinated development of technical solutions and social mechanisms, including personnel training, improvement of the regulatory framework, and the development of a culture of digital responsibility. Ignoring these aspects could lead to increased systemic risks and decreased trust in financial information. Therefore, the further development of digital accounting in Uzbekistan should be based on the principles of socio-technical integration and sustainable innovation management.

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