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THE TRANSITION FROM TRADITIONAL ACCOUNTING TO DIGITAL MANAGEMENT: THE ROLE OF ARTIFICIAL INTELLIGENCE IN MODERN ACCOUNTING

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Abstract: This scientific article examines the theoretical and methodological foundations of transitioning from traditional financial accounting models to AI-driven digital management systems under the conditions of global digital transformation. During the study, the economic essence of integrating Artificial Intelligence (AI), Machine Learning (ML), and Robotic Process Automation (RPA) into accounting systems was analyzed. In addition, the financial and economic efficiency of implementing digital accounting technologies in the real sector industries of Uzbekistan's economy was evaluated. Based on international practices, scientific conclusions and practical proposals were developed to modernize national accounting frameworks and mitigate cybersecurity risks during digital transformation.

Key words: artificial intelligence, digital management, traditional accounting, Robotic Process Automation (RPA), cloud accounting, financial digital transformation.

Introduction. Today, one of the top priorities of major structural transformations in the global economy is the digitalization of business processes and the optimization of administrative operations. Under the conditions of intense market competition and globalization, traditional manual accounting models fail to fully satisfy the rapid information demands of modern corporate governance. Consequently, establishing an advanced system of automated financial reporting driven by Artificial Intelligence (AI) has become a necessity of our time on a global scale.

In the context of modernizing the economy of New Uzbekistan, implementing high-tech digital solutions and accelerating the digital transformation of local enterprises are of strategic importance. Furthermore, one of the most critical tasks facing national enterprises is not only processing historical data but also utilizing predictive analytics for strategic financial decision-making. From this perspective, redefining the role of accountants from pure record-keepers to strategic digital managers is both theoretically and practically urgent.

Currently, the regulatory and legal framework for maintaining AI-driven and cloud-based accounting in our country's enterprises is in the process of consistent development. However, the lack of a standardized methodology for auditing automated algorithms, along with deficiencies in data governance frameworks, leads to systemic integration issues. Therefore, there is a growing need to develop modern methodological approaches to safely integrate AI tools into the National Accounting Standards (NAS).

Results and discussion. In order to ensure sustainable economic growth and digital literacy in the Republic of Uzbekistan, a wide range of state programs focused on the "Digital Uzbekistan — 2030" strategy are being consistently implemented. In this regard, the need has arisen to form a systematic organizational structure for transitioning traditional accounting processes into autonomous digital workflows. As a result of the conducted analyses, the main functional characteristics of AI-based digital management, which distinguish it from traditional bookkeeping, were identified and

classified: Automated Data Ingestion: Real-time processing of primary documents (invoices, receipts) using Optical Character Recognition (OCR) without human intervention. Predictive Financial Analysis: Utilizing machine learning models to forecast cash flows, budget variances, and credit risks based on historical data patterns. Continuous Internal Audit: Real-time fraud detection and anomaly recognition in financial transactions, reducing systemic corporate risks. Strategic Decision Support: Generating interactive, multi-dimensional managerial reports that allow executives to make agile data-driven decisions. To implement AI and automated software in industrial and service enterprises, it is initially necessary to evaluate the financial feasibility and capital allocation needed for digital infrastructure. To systematically analyze the forecast indicators implemented in this direction, the following table data were formulated.

Technical and economic indicators of projects for implementing Artificial Intelligence and Digital Accounting software in enterprises for 2024–2028 (in million USD)

Table 1

No	Indicator name	Total	Venture Capital	International Grants	Enterprise's Own Funds	State Subsidies
1.	Total value of digital projects	74.50	35.00	12.50	18.00	9.00
2.	Intergrating AI modules & predictive software	38.00	20.00	4.00	9.00	5.00
3.	Cloud infrastructure & cybersecurity systems	15.20	7.00	3.20	5.00	0.00
4.	Personnel upskilling & IT-accounting training	6.30	0.00	2.30	2.00	2.00
5.	Robotic process automation (RPA) tools	15.00	8.00	3.00	2.00	2.00

Analysis of the data in Table 1 shows that the major portion of the automation projects, with a total value of 74.50 million USD, namely 35.00 million USD, is planned to be financed through targeted venture capital and specialized technology investments. This requires a high level of digital readiness and technical transparency in enterprises because tech funds allocate capital solely to structures that maintain solid data governance.

Conclusion. The transformation of traditional accounting into an AI-driven digital management system is the most effective and modern tool for increasing corporate efficiency and ensuring long-term competitiveness. This system serves to eliminate human error, minimize administrative costs, and elevate accountants to the status of internal financial strategists. To develop digital accounting and increase the efficiency of implementing AI systems in real sector enterprises of Uzbekistan's economy, we consider it appropriate to implement the following scientific and practical proposals:

First, it is necessary to introduce specialized amendments and technological guidelines into the National Accounting Standards (NAS) regarding cloud data management, digital signatures, and the validation of automated records. Second, it is essential to expand cybersecurity protocols and strict data privacy regulations within the financial departments of large joint-stock companies and enterprises with state shares to mitigate data breach risks.

Third, there is a requirement to establish an agile workflow transition model that combines Robotic Process Automation (RPA) with human-in-the-loop validation for critical financial decisions. Fourth, it is necessary to enhance human resource capacity by introducing modern cross-disciplinary courses such as “Data Analytics in Accounting” and “AI and Machine Learning for Financial Managers” into the higher education curricula.

References:

1. Decree of the President of the Republic of Uzbekistan No. PF-6079 dated October 5, 2020, “On Approval of the Strategy 'Digital Uzbekistan-2030' and Measures for its Effective Implementation.”
2. Bhargava S., & Cooper R. Artificial Intelligence in Accounting and Auditing: Towards Cognitive Automation. Academic Press, 2019, pp. 112-145.
3. Sutton S. G., & Arnold V. The disruption of the accounting profession by big data, blockchain, and artificial intelligence. Journal of Information Systems, 32(1), 2018, pp. 1-15.
4. International Federation of Accountants (IFAC). The Digital Future of Accounting: Implications of AI and Automation. IFAC Technology Report, 2023.
5. Karimov A.A. Issues of introducing cloud accounting and digital control mechanisms in corporate management. Monograph. Tashkent, 2022.