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THE ROLE OF DIGITAL TRANSFORMATION AND RISK-BASED APPROACHES IN ENHANCING THE EFFICIENCY OF PUBLIC BUDGET EXPENDITURE CONTROL

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Abstract

In the context of the modern economy, ensuring the efficiency of public budget expenditures has become one of the priority directions of public administration. In particular, improving mechanisms for controlling the targeted use of budget funds is crucial for ensuring economic stability, the rational use of state resources, and enhancing the effectiveness of social programs. In recent years, digital transformation processes in public financial management have been developing rapidly on a global scale, shaping new approaches to budget control.

Currently, traditional audit methods are found to be insufficiently effective for monitoring public expenditures. This necessitates the introduction of risk-based control, real-time monitoring, big data analytics, and artificial intelligence technologies. From this perspective, this study is aimed at scientifically substantiating the importance of digital and risk-based approaches in improving the efficiency of budget expenditure control.

The issue of public budget control and its efficiency has been widely covered in international literature. In particular, Allen Schick (2014) emphasizes the role of budget discipline and control systems in public financial management, highlighting that effective control ensures the targeted and result-oriented use of



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public funds. Richard Allen (2016) assesses budget control as a central element of public financial management, noting that its effectiveness is closely linked to information systems and the institutional environment. Sanjeev Gupta and Benedict Clements (2017) emphasize that the introduction of digital technologies in controlling public expenditures helps reduce the risk of corruption and increase transparency. David Heald (2018) analyzes the role of open data and audit systems in ensuring budget transparency and accountability. Ian Ball (2019) provides a scientific basis for the introduction of international standards in the public sector to improve the efficiency of budget control.

In recent years, special attention has been paid to digital transformation. Marek Dabrowski (2020) notes that data-driven decision-making systems in public financial management define a new stage of budget control. Janet R. Kelly and William C. Rivenbark (2021) show that performance budgeting systems can align control and result-orientation in the budget process. Reports by the Organisation for Economic Co-operation and Development (OECD, 2022) evaluate digitalization and integrated information systems as key factors in improving the efficiency of control. World Bank studies (2021) note that implementing risk-based audit systems in public expenditure management ensures the effective use of resources.

In the current context, the public budget control system is evolving from traditional audits to a comprehensive management mechanism. Digital technologies and risk-based approaches are emerging as key drivers in this process.

The risk-based control model focuses on identifying high-risk areas in the expenditure process and directing monitoring resources to those areas. This increases control efficiency while reducing excessive audits. For example, the



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public procurement sector is considered a high-risk segment, and implementing enhanced control mechanisms in this area is deemed effective.

Digital transformation brings a qualitatively new stage to the budget control system. Real-time monitoring, electronic document flow, and automated analysis systems create opportunities for continuous monitoring of budget fund movements. At the same time, big data analytics allows for the early detection of financial violations.

In Uzbekistan, reforms aimed at digitalizing budget processes are being implemented. However, analyses show that data integration and analytical platforms are not sufficiently developed, which limits control efficiency.

From this perspective, enhancing the efficiency of budget control requires the implementation of digital platforms, integration of data bases, and the development of AI-based analysis systems.

The research results indicate that relying solely on traditional approaches is insufficient to improve the efficiency of public budget expenditure control. Digital transformation and risk-based control models play a decisive role in this process.

Thus, the effective use of budget funds can be ensured by introducing integrated information systems in public financial management, developing risk-based audit models, and strengthening public oversight.

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