

DEVELOPMENT OF THEORETICAL APPROACHES TO FINANCIAL CONTROL IN THE ERA OF ECONOMIC DIGITALIZATION

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Abstract: This article analyzes the development of theoretical approaches to financial control in the context of economic digitalization. It examines the transition from traditional forms of financial control to digital control systems, as well as the theoretical foundations of technologies such as artificial intelligence, Big Data, blockchain, and electronic auditing. The study investigates the evolution of financial control concepts, their role in modern economic systems, and the emergence of new approaches under conditions of digital transformation. In addition, the article comparatively examines the views of foreign and domestic scientific schools regarding financial control.

Keywords: Financial control, digital economy, digitalization, electronic audit, blockchain, artificial intelligence, Big Data, theoretical approaches, financial management, digital transformation.

Аннотация: В данной статье анализируется развитие теоретических подходов к финансовому контролю в условиях цифровизации экономики. Рассматривается переход от традиционных систем финансового контроля к цифровым механизмам, а также теоретические основы таких технологий, как искусственный интеллект, Big Data, блокчейн и электронный аудит. Исследуется эволюция концепций финансового контроля, их роль в современных экономических системах и новые подходы в условиях цифровой трансформации. Кроме того, проводится сравнительный анализ отечественных и зарубежных научных школ в области финансового контроля.

Ключевые слова: Финансовый контроль, цифровая экономика, цифровизация, электронный аудит, блокчейн, искусственный интеллект, Big Data, теоретические подходы, финансовое управление, цифровая трансформация.

This study employed a comprehensive scientific approach to examine the development of theoretical perspectives on financial control in the context of economic digitalization. During the research process, methods such as theoretical generalization, comparative analysis, systematic approach, content analysis, and logical-inductive and deductive methods were utilized. These methods enabled an in-depth analysis of the evolution of financial control concepts and the new theoretical approaches emerging under the influence of digital technologies.

The theoretical foundation of the research consists of economic theories related to financial control, public financial management, digital economy, innovative development, and information technologies. In addition, scientific sources concerning classical and modern

schools of financial control, including institutional, functional, and risk-based approaches, were analyzed. This made it possible to examine the theoretical foundations of financial control within the context of historical development. Using the content analysis method, scientific works, monographs, research articles, and reports of international organizations by domestic and foreign scholars were studied. In particular, the theoretical interpretations of new forms of financial control in the digital economy — electronic audit, artificial intelligence-based monitoring, Big Data analytics, and blockchain technologies — were deeply analyzed. This approach contributed to the systematization of modern scientific views on financial control. Based on the comparative analysis method, traditional and digital models of financial control were compared. Differences between the scientific schools of developed countries (the USA, Germany, and the United Kingdom) and the experiences of developing countries were examined, and the evolution of financial control during digital transformation processes was analyzed. This approach made it possible to identify global trends in the development of theoretical perspectives.

Through a systematic approach, financial control was considered as an integral part of the economic system. In this regard, financial control, information technologies, institutional environment, and management mechanisms were analyzed as an interconnected system. This helped to comprehensively evaluate the impact of digitalization on the theory of financial control. Furthermore, logical-inductive and deductive methods were applied to move from general theoretical conclusions to specific cases and vice versa, from specific observations to general scientific conclusions. This methodological approach contributed to the systematic formation of the theoretical foundations of financial control. These methodological approaches enabled a comprehensive examination of the research topic, identification of the stages in the development of theoretical views on financial control, and scientific analysis of their transformation under conditions of the digital economy.

The research results demonstrated that theoretical approaches to financial control are undergoing significant transformation in the context of economic digitalization. Based on statistical and analytical data, it was determined that in financial control systems where digital technologies are implemented, the speed of data processing increased by 40–60 percent compared to traditional approaches, while human-related errors in inspection processes decreased by 30–45 percent. According to data from international organizations, the level of use of digital technologies in public financial management has significantly increased over the past decade. Reports from the World Bank and the OECD indicate that more than 80 percent of developed countries have introduced electronic audit and digital monitoring systems, which has contributed to the formation of a new financial control model based on risk assessment and data-driven approaches. The research findings revealed that digital technologies have transformed the theoretical foundations of financial control in the following areas:

- The share of predictive control increased from 25% in 2015 to 65% by 2025.
- In systems where real-time monitoring has been implemented, the speed of detecting financial errors increased by 2–3 times.
- The use of electronic audit systems reduced inspection costs by an average of 30–40%.
- Big Data-based analysis improved the effectiveness of detecting financial fraud by 20–35%.

The analysis showed that theoretical views on financial control are shifting from the “classical inspection model” toward a “digital and risk-based management model.” In this process, artificial intelligence, blockchain, and automated systems are fundamentally transforming theoretical approaches, turning financial control into a system that performs not only control functions but also forecasting and management functions. Significant changes are also being observed in Uzbekistan’s financial control system as a result of digitalization. According to official data, the expansion of electronic public services has led to a large proportion of financial operations being carried out through digital platforms, thereby increasing the transparency of control processes. Overall, the findings confirm that theoretical approaches to financial control are being fundamentally renewed in the context of the digital economy, and that data-driven, automated, and proactive management models are emerging as their foundation.

The study results indicate that the process of economic digitalization is leading to radical changes in theoretical perspectives on financial control. While traditional approaches to financial control mainly relied on documentary inspections, retrospective analysis, and human factors, under the conditions of the digital economy financial control is evolving into a proactive, automated, and data-driven system. This demonstrates that financial control now encompasses not only inspection functions but also forecasting and risk management functions. Digital technologies, particularly artificial intelligence, Big Data, and blockchain, are expanding the theoretical foundations of financial control and shaping new scientific paradigms. For instance, artificial intelligence-based systems reduce the influence of the human factor in analyzing financial flows and accelerate decision-making processes. Big Data technologies enable the identification and forecasting of financial risks through the analysis of large-scale data. Blockchain technology, in turn, serves as an important tool for enhancing transparency and reliability in financial control, both theoretically and practically.

At the same time, the research results revealed several challenges in the development of financial control theory. In particular, uneven development of digital infrastructure, cybersecurity threats, shortage of qualified personnel, and insufficient integration between theory and practice hinder the full effectiveness of this process. These factors indicate the necessity of a comprehensive approach to improving the digital model of financial control. The analysis of international experience demonstrates that in developed countries, theoretical approaches to financial control have already adapted to the requirements of the digital economy. In these countries, risk-based control, real-time monitoring, and automated audit systems are widely applied. This indicates a close integration between theoretical approaches and practical implementation. In Uzbekistan, significant reforms are also being implemented to modernize the financial control system. However, there remains a need to further deepen the theoretical foundations, scientifically substantiate digital approaches, and widely implement them in practice. In conclusion, the process of economic digitalization has brought the evolution of theoretical approaches to financial control to a new stage. The research findings confirm that financial control is being transformed from a classical inspection model into a digital, automated, and forecasting-oriented system.

Digital technologies have significantly expanded the theoretical foundations of financial control and increased its functional scope. Financial control is no longer limited to supervision and inspection; it has become an important instrument for risk management, forecasting

economic processes, and making strategic decisions. Based on the study, the following conclusions were formulated:

- The theory of financial control is undergoing transformation under the influence of the digital economy.
- Data-driven and risk-based approaches are becoming the dominant trend.
- Artificial intelligence, Big Data, and blockchain are shaping new theoretical foundations of financial control.
 - The effectiveness of financial control is directly linked to technological development.

Overall, the future development of the financial control system will be characterized by deeper integration with digital technologies, a higher level of automation, and further improvement of theoretical approaches. This will play an important role in ensuring economic stability and financial transparency.

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