HOW DIGITAL TECHNOLOGIES ARE CHANGING APPROACHES TO TAXATION

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Abstract – this paper examines the impact of digital technologies on taxation and the changing approaches to tax processes in the context of the digitalization of the economy. The aim of the study is to analyze how modern digital tools, such as automation, artificial intelligence, and big data, are transforming traditional methods of taxation, improving the efficiency and transparency of tax systems.

The section "Digitalization of Tax Processes" focuses on the implementation of electronic reporting systems and tax platforms that streamline tax procedures for both businesses and governments. It explores contemporary approaches to the creation and use of online systems for tax declaration submission and online tax payment, as well as the use of blockchain technologies to enhance transparency in tax calculations.

Special attention is given to new approaches to taxation, such as the use of artificial intelligence and big data analysis for more accurate assessment of tax liabilities, improved tax control, and fraud prevention. The paper analyzes the advantages of digital technologies for taxation, including the increased efficiency of tax collection, reduction of administrative costs, and improvement of interaction between taxpayers and tax authorities.

However, the implementation of digital technologies is also associated with a number of challenges, including issues related to privacy and data protection, as well as potential risks of digital inequality, particularly in countries with low levels of digital infrastructure. The paper discusses these issues and suggests possible solutions.

In conclusion, the importance of further development of digital technologies in taxation is emphasized, along with opportunities to enhance global tax compliance and improve financial systems at the international level.

Keywords: digital technologies, taxation, tax process automation, electronic platforms, artificial intelligence, big data, blockchain, tax system transparency, online declarations, data protection, tax fraud, tax efficiency, digital inequality, tax control.

Introduction

Digital technologies are a set of innovative solutions that leverage information technology capabilities to automate, improve, and optimize processes in various areas of human activity. In the context of taxation, digitalization encompasses a wide range of changes that affect all stages of interaction between governmental authorities and taxpayers. These technologies include the creation of electronic platforms for filing tax returns, automation of tax procedures, the use of artificial intelligence (AI) and big data to analyze tax risks and determine obligations, as well as the implementation of blockchain solutions to enhance transparency and reliability of tax calculations.

The essence of digital technologies in taxation lies in the creation of new, more efficient ways of managing taxes, ensuring faster procedures, reducing administrative costs, and increasing

calculation accuracy. These technologies help minimize the human factor, reduce errors, and increase transparency, making the tax system more understandable and accessible to taxpayers, as well as safer and more effective for the state. In particular, automation and the implementation of electronic systems significantly speed up the process of submitting tax returns, paying taxes, and obtaining necessary information, thus reducing administrative barriers and the time spent interacting between tax authorities and businesses.

The relevance of digitalization in taxation has become increasingly evident in recent years against the backdrop of rapid changes in the global economy driven by the development of digital technologies. In an environment of accelerated digitalization of business processes and growing volumes of transactions in the electronic space, traditional methods of taxation no longer meet modern challenges and needs. The introduction of digital solutions into tax processes is a step towards modernizing tax systems, aimed at creating more flexible, transparent, and adaptive models for tax collection. This is crucial not only for ensuring greater efficiency in tax collection but also for strengthening the fight against tax evasion, financial crimes, and other forms of economic offenses.

Furthermore, the use of digital technologies enhances cooperation between states and international organizations. In a globalized economy, where businesses often operate in international markets, ensuring accurate taxation becomes a complex task that requires the implementation of innovative solutions. Modern tax systems increasingly rely on blockchain technologies to ensure transparency and prevent manipulation of tax data, as well as on the use of artificial intelligence and analytics to improve the quality of forecasting and analysis of tax risks.

Digitalization of taxation offers unique opportunities to improve the efficiency of public administration, enhance economic discipline, and stimulate innovation in the tax sphere. Introducing digital solutions into this process enables the creation of more adaptive and dynamic systems that can respond quickly to changes in the economy and effectively regulate taxation in the face of global economic shifts.

Thus, the topic of digital technologies in taxation is not only a current trend but also a crucial element for ensuring sustainable economic development in the context of global digital transformation. These technologies open new horizons for innovation, improving financial systems, and ultimately achieving greater tax justice and efficiency in contemporary conditions.

Digitalization of Tax Processes

The digitalization of tax processes represents a key transformation in the system of public financial management, impacting various aspects of taxation and tax administration. The primary drivers of these changes are automation technologies and the creation of electronic platforms, which significantly improve the efficiency, transparency, and accessibility of tax procedures for both government agencies and taxpayers.

Automation of Tax Processes. Automation of tax processes involves the introduction of modern information technologies, software, and algorithms to perform functions that previously required human intervention. This process contributes to a significant reduction in the time required for processing tax data, as well as a decrease in the likelihood of errors related to human factors.

One of the most noticeable aspects of automation is the automatic calculation of tax liabilities. In some countries, taxpayers can provide data on income, assets, or expenses through online systems, and based on this information, the system automatically generates tax returns. This significantly accelerates the reporting and tax payment process, as well as minimizes errors that might occur when manually completing forms.

Automation also includes the implementation of intelligent data analysis systems. Tax authorities can use algorithms to analyze incoming declarations and identify potential errors or violations. These systems can immediately detect discrepancies and automatically trigger audits, accelerating the identification of tax evasion cases. In countries with highly developed digital tax

systems, such as Estonia or South Korea, such systems are actively utilized, enhancing the effectiveness of tax control.

In addition, the automation of tax processes helps improve tax reporting and management. Modern systems can integrate with other government and private databases, such as banking systems, property registries, or social security systems. This enables tax authorities to track taxpayer information in real time, making the tax administration process more dynamic and accurate.

Electronic Platforms in Taxation. Electronic platforms are systems through which taxpayers can interact with tax authorities for submitting tax returns, paying taxes, and accessing other services. The implementation of electronic platforms not only facilitates the taxation process for businesses and individuals but also contributes to the creation of a more transparent and efficient tax management system.

One of the most significant achievements in the field of electronic platforms is the introduction of "unified tax portals," through which taxpayers can access all necessary services and documents. These platforms typically offer a wide range of services, such as submitting tax returns, tracking the status of tax payments, receiving notifications about tax deadlines and penalty assessments, and providing statistical and analytical data on tax revenues. Unlike the traditional paper-based document submission method, electronic platforms allow taxpayers to save time and resources, eliminating the need to visit tax authorities in person.

Furthermore, electronic platforms provide interactive tools for filling out tax returns, which automatically calculate taxes, check for errors, and offer recommendations for corrections. This functionality significantly reduces the risk of mistakes and simplifies the process of completing tax documents for users, especially for small and medium-sized businesses that may find it difficult to hire highly qualified accountants.

The integration of electronic platforms with other government and financial systems is another important advantage of digitalizing tax processes. In countries such as the United Kingdom and Singapore, tax systems are linked to banks and financial institutions, enabling taxpayers to pay taxes directly through the platform and simplifying tax audits and the automatic transfer of data between various agencies.

In addition, globalization and the growth of international transactions are also contributing to the development of electronic platforms for cross-border tax operations. Tax authorities can create unified systems for exchanging information between countries, making it easier to comply with tax obligations in an international context and helping to combat tax evasion at the global level. This is particularly important for countries with high levels of international business transactions.

Benefits and Challenges of Tax Process Digitalization. Digitalizing tax processes not only accelerates operations and improves calculation accuracy but also provides significant economic and organizational benefits. The implementation of automation and electronic platforms can greatly reduce administrative costs associated with processing tax returns and paperwork. Government agencies, in turn, can redirect the freed-up resources to more important tasks, such as combating fraud and tax evasion.

However, despite the numerous advantages, there are challenges that both governments and taxpayers face when implementing digital tax systems. One of these challenges is data security. Modern systems require the protection of personal and financial information, as any data breaches could lead to serious consequences for both taxpayers and government structures.

Another challenge is digital inequality, as in some regions or countries, access to the internet and digital platforms may be limited. This creates problems for certain groups of taxpayers, such as the elderly or representatives of small and medium-sized enterprises, who may not have the necessary resources to adopt new technologies.

The digitalization of tax processes through automation and the use of electronic platforms significantly transforms the field of taxation, enhancing its efficiency, transparency, and

accessibility for all participants in economic activity. Despite challenges such as data security issues and digital inequality, the transition to electronic taxation holds immense potential for improving public administration, increasing tax revenues, and creating a more equitable tax system in the digital economy.

New Approaches to Taxation in the Digital Economy

New approaches to taxation in the context of the digital economy are becoming increasingly relevant with the development of technologies such as artificial intelligence (AI) and big data. These technologies have the potential to significantly change existing methods of collecting and analyzing tax information, leading to improvements in tax administration, enhanced accuracy of tax calculations, and a reduction in the possibility of tax manipulations.

Artificial Intelligence in Taxation. Artificial intelligence (AI) is a powerful tool that is already being actively used in various fields, including taxation. The integration of AI into tax processes helps improve the efficiency of tax authorities and simplifies and automates many operations for taxpayers.

Data Analysis and Processing. One of the key roles of AI in taxation is the analysis of large volumes of data, which greatly enhances the effectiveness of tax administration. Tax authorities can use AI to automatically process tax returns, identify anomalies, and detect potential cases of tax fraud. With the help of machine learning algorithms and neural networks, AI systems can analyze taxpayer behavior, recognizing patterns and deviations from standard behavior. For example, if a company submits a tax return reporting income significantly lower than the average for similar businesses, AI can automatically trigger an investigation for potential tax evasion.

AI can also assist in forecasting tax revenues, which is a crucial element for planning government expenditures. By analyzing economic data, trends, and changes in taxpayer behavior, AI can build accurate forecasts. This is particularly important in times of economic instability, where traditional forecasting methods may often prove inaccurate.

Personalized Taxpayer Services. Another important application of AI in taxation is the personalization of tax services for individuals and businesses. AI can be used to create adaptive systems that help each taxpayer, based on their specific data, receive personalized recommendations about their tax obligations, possible deductions, or tax credits. Using chatbots and virtual assistants, tax authorities can provide 24/7 support, answering questions and assisting with filling out returns.

Big Data in Taxation. Big data refers to unstructured and structured data collected from a variety of sources, such as transactions, social media, payment systems, etc. In taxation, big data allows for more accurate estimation of tax revenues, identifying potential sources of evasion, and optimizing tax rates.

Tax Data Analysis. The use of big data in taxation enables tax authorities to conduct in-depth analysis of tax revenue and identify hidden trends in taxpayer behavior. For example, by analyzing data on purchases, sales, and transactions, authorities can track the economic activity of individuals and businesses, identify discrepancies, and detect potential tax evasion. Modern analytical tools allow for real-time processing of tax revenue data, enabling governments to respond swiftly to changes in the economic situation and adjust tax policies accordingly.

Preventing Tax Fraud. Big data plays a crucial role in preventing tax fraud. With data processing technologies, tax authorities can identify suspicious tax evasion schemes, such as the creation of fake companies or manipulation of reporting. By using transaction data, banking operations, and goods movement records, tax authorities can establish links between companies and individuals, making investigations and fraud prevention much easier.

Taxpayer Segmentation. Big data also allows for the segmentation of taxpayers based on various criteria, such as business size or level of compliance with tax laws. This enables tax authorities to develop more precise and personalized tax strategies. For example, large corporations may undergo more thorough audits, while small businesses might receive more flexible tax terms, which enhances accessibility and stimulates economic development.

Conclusion

Digitalization of taxation is a significant step in the evolution of financial systems and public administration, opening new opportunities to enhance efficiency, transparency, and accuracy in tax processes. The introduction of innovative technologies, such as automation, artificial intelligence (AI), blockchain, and big data, is fundamentally changing the approach to tax collection, combating tax evasion, and improving interactions between taxpayers and government authorities.

Prospects and Potential of Digital Technologies in Taxation. One of the most significant prospects is the increased automation of tax processes, which will substantially improve the efficiency of tax authorities' operations. By implementing AI and big data, tax systems will be able to process vast amounts of data with speed and accuracy, reducing the time needed for processing tax returns and accelerating the issuance of notifications and reports. This approach will also improve the personalization of interactions with taxpayers, offering individualized tax payment recommendations, exemptions, and deductions based on data analysis. Technologies like blockchain will provide reliability and transparency in tax operations by creating immutable and verifiable records of every stage of tax activity. This will significantly reduce the risk of tax fraud and increase trust in tax systems. The digitalization of data will also open new opportunities to enhance mobility and convenience for citizens, as taxes can be paid through online platforms in real-time, without the need for direct interaction with government agencies.

Furthermore, the digital transformation of tax processes will contribute to reducing operational costs, increasing the efficiency of tax authorities. Simplifying the submission of tax returns and using electronic signatures will make processes more accessible to a broader population, which, in turn, will improve tax discipline and reduce the number of tax violations.

Impact on Economic and Societal Development. With the growth of digitalized tax systems, fiscal stability and tax revenue growth will improve, as increased accuracy in accounting, the use of new technologies for analytics, and forecasting tax revenues will minimize tax evasion. This will create conditions for a fairer distribution of the tax burden among various categories of citizens and legal entities.

Equally important is the improvement of financial literacy and the increased accessibility of tax services. The transition to electronic platforms and the automation of tax procedures allow citizens and small businesses to resolve tax issues quickly and without unnecessary costs, which in turn fosters economic activity and the development of small and medium-sized businesses. Technological innovations can also provide a higher degree of inclusivity in tax processes. In countries with low digital literacy and limited access to high-speed internet, it is crucial to develop special measures to educate and ensure access to digital tax services for all population segments, including those in remote and hard-to-reach regions.

References

1. Khadzhiev M. et al. Taxation and tax transformations to the digital economy conditions //Industry 4.0. – 2019. – Т. 4. – №. 3. – С. 134-137.
2. Igbinenikaro E., Adewusi O. A. Tax havens reexamined: the impact of global digital tax reforms on international taxation //World Journal of Advanced Science and Technology. – 2024. – Т. 5. – №. 02. – С. 001-012.
3. Harpaz A. Taxation of the digital economy: Adapting a twentieth-century tax system to a twenty-first-century economy //Yale J. Int'l L. – 2021. – Т. 46. – С. 57.
4. Kudrle R. T. Moves and countermoves in the digitization challenges to international taxation //Technology in Society. – 2021. – Т. 64. – С. 101453.
5. Alm J. Tax evasion, technology, and inequality //Economics of Governance. – 2021. – Т. 22. – №. 4. – С. 321-343.

6. Vishnevsky V. P., Chekina V. D. Robot vs. tax inspector or how the fourth industrial revolution will change the tax system: a review of problems and solutions //Journal of Tax Reform. 2018. Т. 4.№ 1. – 2018. – Т. 4. – №. 1. – С. 6-26.
7. Lagodiienko N., Yakushko I. Digital innovations in taxation: bibliometric analysis. – 2021.
8. Pylypenko O. et al. Government tax policy in the digital economy //Cuestiones Políticas. – 2022. – Т. 40. – №. 72. – С. 279-296.
9. Ашрапова Л. У., Яхшибоев Р. Э. ИННОВАЦИОННЫЕ ПОДХОДЫ И ИНВЕСТИЦИОННЫЕ СРАТЕГИИ В УСЛОВИЯХ ЦИФРОВИЗАЦИИ ЗЕЛЕНОЙ ЭКОНОМИКИ: ПЕРСПЕКТИВЫ УСТОЙЧИВОГО РАЗВИТИЯ //Innovations in Science and Technologies. – 2024. – Т. 1. – №. 8. – С. 55-66.
10. Ашрапова Л. У., Яхшибоев Р. Э. БЛОКЧЕЙН В ЦИФРОВОЙ ЭКОНОМИКЕ: ПОТЕНЦИАЛ ДЛЯ ПОВЫШЕНИЯ ПРОЗРАЧНОСТИ И ДОВЕРИЯ //Innovations in Science and Technologies. – 2024. – Т. 1. – №. 7. – С. 121-136.
11. Ашрапова Л., Яхшибоев Р., Атаджанов Ш. ДЕЦЕНТРАЛИЗОВАННАЯ СИСТЕМА ГОЛОСОВАНИЯ АКЦИОНЕРОВ НА ОСНОВЕ БЛОКЧЕЙНА //Innovations in Science and Technologies. – 2024. – Т. 1. – №. 7. – С. 70-82.
12. Ашрапова Л. У., Яхшибоев Р. Э. ЦИФРОВАЯ ТРАНСФОРМАЦИЯ БИЗНЕСА И УПРАВЛЕНИЕ ИЗМЕНЕНИЯМИ //Innovations in Science and Technologies. – 2024. – Т. 1. – №. 6. – С. 146-158.
13. RE Y. R. E. Y., Kudratillayev K. M. B. IMPLEMENTING E-GOVERNMENT SOLUTIONS: BEST PRACTICES AND CHALLENGES //Innovations in Science and Technologies. – 2024. – Т. 1. – №. 6. – С. 107-117.