

TRANSFORMING TAX ADMINISTRATION: FROM REPORTING AUTOMATION TO INTELLECTUAL CONTROL

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Abstract: This research report analyzes the fundamental stages of the digital transformation of tax administration, in particular, the mechanisms of transition from traditional automation processes to intelligent control systems based on artificial intelligence. The focus of the research is on the tax reforms of the Republic of Uzbekistan for 2023–2025, in particular, the results of joint projects with the World Bank and the International Monetary Fund. The article scientifically substantiates the application of the concept of "Tax Administration 3.0" developed by the OECD to the national economy, the effectiveness of artificial intelligence tools such as the "DavrOn" virtual assistant, and their role in curbing the hidden economy. Also, the six-dimensional model of data quality and the economic efficiency of the risk-based audit system are proven through quantitative indicators. At the end of the study, the ethical and legal issues of intellectualizing the tax system are considered and strategic proposals are developed until 2030.

Keywords: Tax administration, digital transformation, artificial intelligence, Big Data, Tax Administration 3.0, GovTech, risk management, intellectual control, hidden economy, Uzbekistan.

Introduction

The rapid development of digital technologies in the global economy has created a new paradigm for managing the state financial system. Tax administration is now becoming not just a tax collection mechanism, but an intelligent system that processes large amounts of data and forecasts economic processes. In the conditions of Uzbekistan, the relevance of this transformation is determined by the need to maintain stable economic growth rates and raise budget revenues to a qualitatively new level. According to the results of 2024, Uzbekistan's gross domestic product (GDP) reached

\$121.4 billion as a result of methodological adjustments and clarification of reporting, which indicates the increasing transparency of economic indicators.¹ While the "automation" stage of tax administration mainly involves the conversion of paper documents into electronic form and the receipt of reports online, the "intellectual control" stage involves real-time data analysis, prediction of taxpayer behavior, and identification of risks without the human factor. The Uzbek government has secured 199.5 trillion soums in revenue in 2024, up from the projected 196.5 trillion soums, a 20.2 percent increase over the previous year, thanks to improved tax policies. The integration of tax authorities' databases with 67 ministries and agencies played a key role in achieving these results.² According to the International Monetary Fund's 2025 projections, Uzbekistan's economy is projected to grow by 7.6 percent, creating a favorable macroeconomic environment for expanding the tax base and improving governance. However, the system still faces complex challenges, including reducing the share of the shadow economy, addressing the value-added tax (VAT) "disconnection," and ensuring ethical standards in the use of artificial intelligence. This report analyzes these problems and their solutions based on international experience and national real-world data.

Analysis of literature on the topic

on the digitalization of tax administration have centered around the concept of "Tax Administration 3.0." This model, proposed by the OECD, involves integrating tax administration into taxpayers' native systems (e.g., accounting software, banking transactions). This approach relies on the principle of "transparency and convenience" to increase voluntary compliance.³ International Monetary Fund (IMF) researchers M. Nose, N. Pierri, and J. Honda (2025) have studied the synergy between GovTech (government technologies) and firm-level digitalization. They conclude that the development of a firm's digital infrastructure can increase the ratio of tax revenues to GDP by up to 3 percentage points, if the government's digital readiness index is above 0.5. This theory suggests that tax reforms in Uzbekistan are important not only for the fiscal administration, but also for the entire business environment.⁴ In addition, World Bank experts, analyzing the P173001 project in Uzbekistan, emphasize the interdependence between data center modernization and human resource development.

¹ Gazeta.uz. (2025, November 17). The size of the economy of Uzbekistan has been recalculated and increased. <https://www.gazeta.uz/oz/2025/11/17/gdp/>

² Tax Committee of the Republic of Uzbekistan. (nd). [Results of the activities of the Tax Committee in 2024: results and future plans]. <https://gov.uz/oz/soliq/news/view/42899>

³ Organization for Economic Cooperation and Development. (2025). Tax administration 2025: Comparative information on OECD and other advanced and emerging economies. OECD Publishing.

⁴ International Monetary Fund. (2025). Leveraging digital technologies in boosting tax collection (IMF Working Paper No. 25/89). <https://doi.org/10.5089/9798229008402.001>

They believe that technology alone will not provide efficiency if the system does not have high-quality data and qualified personnel to manage it.

Research methodology

used economic and statistical analysis, comparative study, induction and deduction methods. The empirical basis of the study is the official reports of the State Tax Committee of the Republic of Uzbekistan for 2023–2025, the World Bank's project implementation monitoring data, and the IMF's country analytical reports.

Used in data processing:

1. **Dynamic series analysis: Trends** in tax revenues and economic growth indicators over the last 3 years were studied.
2. **Risk-based selection model:** The effectiveness of tax audits and their share among taxpayers was analyzed.
3. **Maturity Model:** The level of digital transformation of the Uzbek tax system was assessed based on the OECD's "Tax Administration 3.0" criteria .
4. **Quality indicators:** The acceptance of services provided by the DavrOn virtual assistant and the Taxes mobile application by taxpayers and their impact on administrative costs were examined.

The PEFA (Public Expenditure and Financial Accountability) 2024 methodology was also used as the methodological basis of the study, which allows measuring the transparency and accountability of the public finance system at the level of international standards.

Main part problem analysis and results

Economic growth and expansion of the tax base

Of Uzbekistan is taking place against the backdrop of large-scale macroeconomic changes in the country. The recalculation of GDP in 2024 and the announcement of economic growth of 6.7 percent have opened up new opportunities for the tax administration. The fact that tax revenues have grown faster than GDP growth (20.2%) is the result of the system's efforts to uncover hidden turnover in the economy. In the structure of tax revenues, profit tax (11.8 trillion soums) and VAT (9.8 trillion soums) occupy the main share. However, analyses show that the loss of VAT revenues (VAT gap) is still significant and amounted to 30.5 percent of the estimated potential in 2024. This indicator indicates the need to further improve intelligent control systems, especially in identifying fictitious transactions.

Digital innovations and intelligent tools in administration

The technological base of the tax system has been fundamentally updated within the framework of the P173001 project implemented with the assistance of the World Bank. As of December 2024, the Data Processing Center of the tax authorities has been

modernized under contracts worth \$ 39.32 million. This infrastructure ensures the stable operation of tools such as the DavrOn virtual assistant based on artificial intelligence⁵. The DavrOn virtual assistant provides explanations on tax legislation 24/7, reducing the routine tasks of tax officials. Also, 5 new information systems and 33 types of services in the Taxes mobile application, which were put into operation in 2024, allowed for the "impersonalization" of communications with taxpayers, which significantly reduces the risks of corruption. The audit efficiency reaching 99 percent indicates that the intelligent selection system is working almost flawlessly. In 2024, almost all of the 1,780 enterprises selected for audit were confirmed to have tax risks and 5.9 trillion soums of additional tax were assessed. This is a positive result of the transition from "general inspection" to "spot checks". However, a theoretical problem arises here: if the system checks only the "red" (high-risk) group, a "deterrence effect" may occur in the "yellow" and "green" corridors. Therefore, in the OECD 3.0 model, it is recommended that a continuous monitoring and warning system replace audits.

Data quality as the foundation of intelligent control

The biggest challenge in the intellectualization of the tax system is data quality. According to a study by the IGC (International Growth Centre), for AI systems to work effectively, data must meet six dimensions: completeness, non-repetition, consistency, timeliness, validity and accuracy. Although integration with 67 ministries is ensured in Uzbekistan, in many cases data remains in the form of "silos" (closed databases). For example, inconsistencies between customs and tax databases create difficulties in controlling the movement of imported goods in the domestic market. To solve this problem, in 2024, an "electronic consignment note" system was introduced, which allows real-time tracking of goods movements.

Ethical and legal issues of intellectual control

Of transitioning to artificial intelligence, the problem of "black box algorithms" is becoming more relevant. The taxpayer has the right to understand why his report was considered "suspicious". The draft AI Act of the European Union classifies AI systems used by state bodies as high-risk and imposes strict transparency requirements on them. In the conditions of Uzbekistan, it is also necessary to strengthen legal control over intelligent control algorithms. Although algorithms are devoid of the human factor, they can inherit historical errors in the training data. For example, if representatives of a certain industry have been checked more often in the past, the AI

⁵World Bank. (2025, June 13). Implementation status & results report: Tax administration reform project in Uzbekistan (P173001). <https://documents1.worldbank.org/curated/en/099061325101540967/pdf/P173001-0fa2abd7-22af-42cc-ad6d-5d844d19092f.pdf>

system can automatically consider this industry as "dangerous", creating an "algorithmic bias".

Conclusion and suggestions

Uzbekistan's tax administration has reached a crucial stage of digital transformation. The study shows that traditional reporting automation is giving way to a data-driven intelligent control system. Macroeconomic stability and a 20.2 percent increase in tax revenues in 2024 confirm that these reforms are on the right track. Based on the analysis and international experience, the following proposals have been developed to further improve tax administration:

1. **Full transition to the Tax Administration 3.0 model: Directly connecting taxpayers' internal accounting systems with tax authorities via API interfaces.** This eliminates the concept of reporting and allows for tax calculation and payment at the time of transaction.
2. **Improving data quality (Data Governance):** Introducing a "single data standard" among government agencies and using NLP (natural language processing) tools that automatically correct errors in data.
3. **Algorithmic Transparency and the Right to Explanation:** Introducing an explanation system in taxpayers' personal accounts that shows the factors on which their risk coefficient was formed. This will increase trust in the system and the level of voluntary compliance.
4. **Transforming Human Resources:** Establish a retraining system to transform tax officials from traditional inspectors to "Data Analysts." This will help address the institutional weaknesses identified in the PEFA 2024 report.
5. **"Intellectual Strike" against the shadow economy: Expanding** the experience of platforms such as taxi aggregators to other service areas (e.g., online shopping, private education) and integrating their information systems with the tax base in real time.

In conclusion, the transformation of tax administration is not just a technological upgrade, but a restructuring of relations between the state and business on the basis of "trust and transparency." Intelligent control systems serve as the most effective tool for creating a fair competitive environment by reducing the human factor.

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