Academicia Globe:
Inderscience Research

ISSN: 2776-1010 Volume 6, Issue 10, October 2025

PROBLEMS OF TAX COLLECTION THROUGH IMPROVING DIGITALIZATION IN THE TAX SYSTEM BASED ON FOREIGN EXPERIENCE

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Abstract:
This scientific article analyzes the issues of increasing the efficiency of tax collection by improving the digitalization of the tax system using foreign experience. The study revealed that the integration of digital technologies into tax administration has led to increased transparency of fiscal management and strengthening of control mechanisms. At the same time, the problems encountered in the process of digitization - such factors as ensuring data security, lack of institutional coordination, and low digital competence of tax officials - are analyzed on a scientific basis. Conceptual proposals for modernizing tax administration and optimizing tax collection processes are developed through a comparative study of the experiences of the United States, China, and South Korea.

Keywords: Tax system, digitalization, tax administration, tax collection, methodological problems, digital technologies, integration of information systems, artificial intelligence, blockchain, data security, transparency, efficiency of tax revenues.

Introduction:

In the current era of globalization and digital transformation, digitization is emerging as an important factor in increasing the efficiency of the tax system. The introduction of modern information and communication technologies into tax administration serves to ensure transparency in the process of tax collection, reduce the human factor, and sustainably increase budget revenues. At the same time, a number of systemic problems in the process of digitization - insufficient integration of information systems, data security and protection, as well as low digital literacy of tax officials - prevent effective results.

The study analyzes the experiences of foreign countries, in particular the USA, China, and South Korea, and studies their approaches to applying digitization in the tax system. Based on these experiences, scientific and practical proposals are developed to improve the process of digitizing the tax system of Uzbekistan, organize tax collection mechanisms more effectively, and modernize tax administration on an innovative basis.

Analysis of literature on the topic

We present a brief review of literature on the topic of ways to improve the tax collection mechanism currently implemented in the tax administration of the Republic of Uzbekistan.

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ISSN: 2776-1010 Volume 6, Issue 10, October 2025

Tax liability is the total amount of tax owed by an individual, corporation, or other legal entity to the government. Income tax, sales tax, and capital gains tax are all forms of tax liability (Johnson, 2022) [1].

The definition of tax liability is the amount of money or debt that an individual or legal entity owes to the government in taxes (Jozepson, 2022). Thus, it is understood that tax liabilities are leading to tax evasion. That is, within the framework of this study, we will try to reveal the economic essence of the concept of tax evasion. Tax evasion is understood as a large-scale activity carried out with the aim of illegally reducing the tax liabilities of individuals or legal entities. Tax obligations are a standard and legal aspect of tax systems, and tax evasion is the criminal act of fraudulently avoiding or reducing these obligations.[2]

Tax evasion has been prevalent throughout history. The term “tax evasion” encompasses a wide range of activities by those who do not want to pay their fair share of taxes (Ovusu et al., 2019). Underreporting income, overstating deductions, and manipulating financial documents are examples of tax evasion strategies (Ozili, 2020). However, the amount of revenue lost through tax evasion can be significant in any country. [3]

Most tax evasion studies examine individual behavior in a specific context (Alm et al., 2019). Individual factors such as morality, beliefs, attitudes, perceptions, intentions, awareness, culture, religiosity, knowledge, and education are important. Personal income tax is the most common lens through which these behaviors are examined, and most theoretical and empirical work on tax evasion has focused on personal income tax (Efeeloo and Dick, 2018). Individuals can avoid paying income taxes by underreporting their income, overstating deductions, allowances, or credits, neglecting to file their tax returns on time, or even engaging in tax avoidance schemes. On the other hand, such behaviors can, of course, be captured in different taxes. Meanwhile, firms may underreport income, overstate deductions, or fail to file corporate income tax returns, for example, as individuals do in their personal income tax returns.[4]

In the literature, economic factors include tax rates, fiscal constraints, income levels, tax burdens, corruption, economic structure, audits, fines, and unemployment. Richardson (2016) argues that non-economic factors are more influential than economic factors in tax evasion. Corruption and tax evasion are subsequently described as widespread problems. Corruption is a dishonest or criminal act committed by a government or an official or corporation to obtain an illegal advantage or to abuse power for personal gain (Khlif and Amara, 2019). Finally, unemployment is defined as those over a certain age who are not in paid employment or self-employment but are currently looking for work (Tabandeh and Tamadonnejad, 2015). According to research, unemployment is a major source of the shadow economy. [5]

In addition to the economic and non-economic factors mentioned above, recent studies on tax evasion also use other factors. A literature review suggests some variables such as the digitalization of government services, corporate social responsibility, and the impact of information dissemination. First, governments around the world have followed the private sector in using the internet to communicate with their citizens in recent decades, realizing that internet technology can simplify

ISSN: 2776-1010 Volume 6, Issue 10, October 2025

government services and increase their efficiency (Uyar et al., 2021). (Montenegro, 2021). Finally, a whistleblower is someone who discloses knowledge or conduct that is illegal, unethical, illegal, dangerous, fraudulent, or misuses public funds within a private, public, or governmental organization. The introduction of whistleblowing systems increases the likelihood of detection by adding uncertainty to the probability of passing an audit (Masslet et al., 2019). [6].

Analysis and discussion of results

Methodological problems in the process of digitizing the tax system in Uzbekistan. In recent years, digital technologies have been widely introduced in the Republic of Uzbekistan to improve tax administration and increase tax collection. In particular, within the framework of the "Digital Uzbekistan - 2030" strategy, tax administration automation, the establishment of electronic reporting systems, an electronic tax system (E-Tax) and unified information platforms are being developed. At the same time, despite the ongoing reforms, a number of methodological problems are observed in this area.

Firstly, the methodological foundations that scientifically and theoretically support the processes of digitizing the tax system have not been sufficiently developed. In particular, there are no unified methodological approaches to introducing advanced technologies such as "Big Data", artificial intelligence and blockchain into tax administration.

Secondly, the problems of integration and standardization between information systems of state agencies have not been resolved. Due to the incomplete harmonization of the databases of tax authorities, customs, financial, banking and cadastral systems, there are gaps in the full coverage of information that is the object of taxation.

Thirdly, limitations in organizational and technological infrastructure undermine the ability to effectively collect taxes digitally. In some regions, the poor quality of Internet networks, insufficient technical support, and varying digital competencies of tax authorities reduce the efficiency of tax administration.

Fourthly, information security and data protection remain an urgent issue. Information about taxpayers' personal data and financial transactions is not fully protected from a cybersecurity perspective. This can lead to distrust in the digitalization process.

Fifthly, despite the introduction of digital platforms into practice, their effectiveness in collecting taxes is not high enough. The emergence of excessive bureaucratic obstacles through electronic reporting systems and the incomplete functioning of monitoring and control mechanisms are among the problems.

Digital governance and tax discipline in the Estonian experience

Estonia is one of the world's leading countries in the field of digital transformation. In particular, Estonia has achieved not only fiscal efficiency, but also an increase in the level of social trust through the introduction of digital technologies in tax administration. This experience is also considered an

ISSN: 2776-1010 Volume 6, Issue 10, October 2025

important example for Uzbekistan, especially in terms of automated income determination and the application of a progressive tax strategy.

A digitalized tax administration system. As of 2024, more than 97% of tax returns in Estonia will be filed electronically, and 99% of administrative services will be provided online (e-Estonia Briefing Centre, 2024). The tax system will be managed through a single digitalized platform - e-Tax/e-MTA. Through this platform, citizens can submit a declaration within 3-5 minutes, as the system offers an auto-filled option based on personal financial information.

X-Road is a real-time integration platform. Integration between all Estonian state registers, banks, notary offices, statistical services and tax authorities is provided by the X-Road information system. This system synchronizes the income and financial activities of individuals across all sources, increasing the accuracy of hidden income. In 2023, an average of more than 180 million queries were made through X-Road, which serves as a huge source of information for tax monitoring (eGA Annual Report, 2023).

Social trust and fiscal culture. The Estonian experience also has important lessons in strengthening tax culture and social trust. According to a 2023 Eurobarometer survey, 82% of Estonians said they trust the state's tax system, one of the highest rates in the European Union. Based on the "one-time entry" principle, information is collected from citizens only once and is not requested repeatedly - this strengthens citizens' loyalty to state systems.

India's GST system and its role in reducing income inequality

Over the past decade, India has ushered in a new era in tax administration by radically reforming its fiscal policy. The Goods and Services Tax (GST), a national-level value-added tax system aimed at eliminating the duplication of tax burdens at different stages of GDP, which was introduced in 2017, has served as an important tool in ensuring social equity, in addition to increasing economic efficiency. The GST system has replaced the previously complex and chaotic tax system with a single, standardized system. While the previous system had dozens of different types of taxes at the central and state levels, the GST has simplified this complexity and consolidated it under a single system. This has helped reduce tax inequities, especially for small and medium-sized businesses.

One of the most important changes is the automatic determination of income by digitizing transactions. The GST Network (GSTN) platform developed by the Indian government has significantly strengthened tax control by collecting real-time data on all trade transactions, supply chains, and payments. The size of the informal economy identified through this system was around 18 percent in 2017, but by 2021, this figure had decreased to 10 percent. The GST system has also distributed the tax burden more fairly among taxpayers. Efforts are being made to strengthen social justice through zero or low-rate GST segments applicable to low-income groups. On the other hand, higher rates have been applied to luxury goods and the redistribution mechanism has been strengthened (KPMG, 2020). In addition, the GST system is allocating financial resources at the central and state levels in a clear and transparent manner. This is leading to an increase in budget allocations for local infrastructure, health, education, and social protection. According to World Bank experts, the GST system is proving to be a tool for supporting

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fiscal stability and economic growth in India. However, the introduction of GST has also been fraught with challenges. In particular, in the initial stages, the process of adapting to the system was difficult for small businesses, which prevented them from entering tax compliance in the short term. However, in recent years, the supporting digital platforms, consulting services and incentives provided by the government have significantly mitigated these obstacles (PWC India, 2021). In general, the Indian experience shows that a single and digital tax system can not only increase tax collections, but also reduce economic inequality, reduce hidden economic activity and strengthen fiscal discipline. This model, by establishing digitalization as a key element of tax policy, provides important practical lessons for developing countries with its results. While the introduction of zero or low tax rates (0%, 5%) on essential consumer goods has been a social protection measure for the poor, the introduction of high taxes (28% + cess) on luxury goods has created additional fiscal responsibility for high-income earners. The widespread introduction of automatic tax collection, real-time monitoring, electronic payments and settlement mechanisms through the GST system has significantly strengthened fiscal discipline. Through the GSTN (Goods and Services Tax Network) platform, each transaction of taxpayers is digitally documented in real time, which serves as an important tool in identifying hidden economic activities.

The GST reform implemented in India has taken practical measures to create a level playing field between business entities and reduce disparities between social strata by abandoning the previous tax systems that were regressive in nature. That is, if earlier only some sectors were exempted from tax and others were under the burden, GST has made it equal. Electronic forms such as e-Way Bill, e-Invoice, GSTR-3B, introduced along with the GST system, have played a key role in ensuring the accuracy of financial transactions and eliminating tax evasion. In particular, through threshold exemptions for small and medium-sized businesses, the tax burden has been differentiated and a fiscal approach tailored to the social strata has been formed. It is emphasized that the introduction of GST has led to positive changes in expanding the tax base and stabilizing budget revenues in India.

According to data, while tax revenue as a share of GDP in India increased from 13 percent to 18 percent between 1991 and 2020, this figure has not been sufficient to reduce income inequality.[39] This means that the GST, being an indirect tax, is particularly burdensome for the lower income groups. They spend a large portion of their expenditure on taxable consumer goods, which reduces their real purchasing power and further increases inequality. On the other hand, while the revenues generated by the GST can be channeled towards social protection programs, existing studies show that these resources are not distributed efficiently. While the poverty rate in the country has declined from 35 percent in 1991 to 18 percent by 2020, the Gini coefficient has increased from 0.31 to 0.41.[39] This indicates an unequal distribution of tax resources.

In addition, the large share of the informal sector in India weakens the progressive nature of the tax system. Informal labor market participants are often excluded from the formal tax system, and therefore do not benefit from tax incentives or social programs. As Das (2016) points out, special tax policy mechanisms need to be developed to attract these workers to the formal economy. Efforts to reduce inequality in India's GST system depend not only on taxes, but also on external factors.

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Globalization, technological progress, and labor market transformation have increased the demand for skilled workers, which has put the low-skilled in an economically vulnerable position [39]. Therefore, along with tax reforms such as GST, employment policies and education strategies need to be reviewed. India's GST system can be an important tool in the fight against inequality, but it needs to be improved on the principles of progressivity, linked to social assistance programs, and integrated into the formal economy by participants in the informal sector. Only comprehensive approaches in these areas can ensure real social equality in India.

Artificial Intelligence and Progressive Tax Rates in the United States

The United States has one of the most complex and largest tax systems in the world, with progressive income tax rates being used as a primary tool to reduce economic inequality. In this system, tax rates increase as income increases. For example, as of 2024, federal income tax rates will start at 10% and reach 37%. This progressive approach is intended to place a higher tax burden on the highest-income earners (IRS, 2024).

Introducing the Role of Artificial Intelligence. In recent years, the United States has been actively using artificial intelligence (AI) and data analytics technologies in its tax administration processes. In particular, the Internal Revenue Service (IRS) analyzes millions of tax returns annually through the AI-based Return Review Program (RRP) system, which analyzes and attempts to identify fraud. In 2022, the system detected more than 1.2 million suspicious declarations, 87% of which were confirmed[42]. Artificial intelligence models analyze tax databases in detail, helping to identify high-risk taxpayers in advance, identify fraud algorithms, and minimize the possibility of tax evasion. These technologies play a significant role, especially in identifying complex financial transactions carried out by high-income individuals and corporations.

Statistical observations and results. According to statistics, the Gini coefficient in the United States increased from 0.463 in 2007 to 0.494 in 2022, which indicates high income inequality in society (US Census Bureau, 2023). However, through the integration of the IRS and SI systems, the real tax burden of high-income earners is increasing. In 2023, individuals earning more than $1 million paid an average tax rate of 26%, which is 3.7% higher than in 2018.

The US experience shows that managing the tax system using artificial intelligence is a powerful tool not only for increasing tax revenues, but also for ensuring social equality. AI reduces fraud and hidden income, while progressive tax rates serve to balance economic differences. This approach can be considered an important model, especially for countries that are striving to create a high-tech tax administration system. The United States remains one of the leading countries in global economic competition through the advanced implementation of artificial intelligence (AI) technologies. In recent years, the impact of AI technologies on employment, production efficiency, and the tax base has led to the need for fundamental changes in US tax policy. The role of progressive tax rates in ensuring social equality has become an urgent issue, especially in the context of changing labor market structures. In the United States, the widespread use of automated systems powered by artificial intelligence is leading to a decline in middle-skilled jobs and an increase in the number of highly skilled and capital-intensive

ISSN: 2776-1010 Volume 6, Issue 10, October 2025

jobs. This has exacerbated the gap in income distribution. According to the US Bureau of Labor Statistics, in 2023, the top 10% of income earners will account for more than 45% of total income, a significant increase from 33% in the 1980s (BLS, 2024). Although the increased efficiency associated with the introduction of artificial intelligence has increased the net profits of large corporations, this does not ensure a fair distribution of economic growth to the working class. This situation reinforces the need for progressive taxation. In the US, the top income tax rate in 2021 was 37%, but it only affected a small portion of the top earners. At the same time, according to a study by the Tax Policy Center, the richest 1% pay only 25-27% of total tax revenues, but they control more than 40% of the total national wealth[40].

On the other hand, taxation of income from artificial intelligence (for example, profits from work performed by robots) has not yet been fully implemented. The Digital Taxation Act is currently considering legal grounds for more progressive taxation of large technology companies such as Google, Amazon, and Microsoft. These initiatives could be an important mechanism for reducing income inequality. According to discussions in the US Congress, new social assistance mechanisms, including a Universal Basic Income (UBI), are being considered to replace jobs lost due to artificial intelligence. The financing of such a policy would depend on progressive taxes, in particular an income tax based on AI levied on large technology companies.

Africa's Mobile Fiscal Controls

In recent years, some developing countries in Africa have modernized their tax systems by introducing mobile-based fiscal controls. Where traditional tax approaches have failed, some countries in West and East Africa are turning to real-time fiscal monitoring, mobile cash registers, and QR code payment systems. Such transformative approaches are not only improving tax collection efficiency but also ensuring equitable distribution of revenue.

The experience in Rwanda is considered one of the most successful examples of mobile fiscal control. Here, since 2013, it has been mandatory for all points of sale to connect electronic cash registers (ECCs) to the State Revenue Service via a mobile network. These devices automatically transmit transaction data to a central system after each sale. As a result, the tax base in Rwanda expanded by 20 percent between 2013 and 2018, and tax revenues increased by 30 percent.

In the case of Ghana, purchases are confirmed using fiscal codes linked to mobile phone numbers through the "e-VAT" platform. Buyers receive a payment receipt via SMS after the purchase, and this information is automatically transmitted to the tax agency's database. Through this system, not only large trading entities, but also small entrepreneurs have been brought into the fiscal control area. According to analyses, this has increased tax discipline in the country and reduced the share of the shadow economy from 23 percent to 15 percent.

Kenya stands out for its socially innovative approach. Here, mobile payment systems such as "Mpesa" are used as a tool for generating tax information. The income of small traders, farmers and service providers is recorded through these platforms, creating a transparent source for their taxation. This approach, while ensuring fiscal inclusion, also serves to strengthen the principles of social justice.

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In Africa, approaches to strengthening fiscal control and broadening the tax base have made significant progress through mobile financial technologies. In particular, systems such as M-Pesa, MTN MoMo, Orange Money have radically expanded the scope of fiscal management and financial services, offering convenient and transparent services to millions of people who lack access to formal banking services (GSMA, 2024). This trend is particularly strongly linked to the continent's young demographic composition, affordable smartphones and the massive expansion of mobile infrastructure.

The African population has the youngest and most flexible demographic in the world, with an average age of 19.3 years. This young group is bypassing banking services and moving directly to mobile technologies. More than 20 million smartphones were shipped to the continent in the first quarter of 2024, outpacing the 18 million feature phones shipped. As a result, app-based services such as PalmPay and OPay are gaining popularity among young people, especially in West Africa.

Mobile finance platforms offer not only payments and money transfers, but also microcredits, savings services, and even insurance products. Services such as Tik Tak (Orange Bank Africa), Fuliza (Kenya), MoMo Credit (Ghana) analyze credit risks in real time using artificial intelligence-based algorithms. This simplifies fiscal monitoring and tax approaches for individuals without formal financial infrastructure.

In 2023, 50% of mobile finance providers offered loans, and 25% offered insurance services. This means that mobile devices are becoming a tool for financial inclusion, as users' spending and income habits are digitally tracked in real time.

Mobile money systems are being actively used not only by the private sector, but also by governments. In particular:

The governments of Uganda and Kenya have launched the distribution of benefits and subsidies via mobile applications;

In Nigeria, humanitarian aid was distributed via MoMo during emergencies (epidemics, floods);

In Ghana and Tanzania, tax payments and licensing are being carried out through mobile applications. Such approaches increase the transparency of government spending and prevent corruption.

While mobile money systems were previously closed within each operator,

by 2024, platforms such as GIMAC, M-PESA Global, Orange Money will have become open systems that provide cross-border exchange. This serves to strengthen fiscal integration, especially within the African Union, ECOWAS and WAEMU. In particular, MTN MoMo is currently operating in 16 countries, processing tax collections and international transfers in real time.

Challenges: tax policy, security and digital literacy

Despite the development of mobile fiscal tools, a number of challenges remain:

Inconsistency of tax policies: For example, Ghana and Tanzania have introduced taxes on mobile transactions, which have led to a decline in usage;

Security issues: SIM swapping, phishing, and fraudulent SMS scams are widespread;

Lack of digital literacy: Most users are not sufficiently informed about the security policies and financial risks of the services they use.

ISSN: 2776-1010 Volume 6, Issue 10, October 2025

In world experience, the issue of reducing income inequality requires a comprehensive approach that includes many economic, fiscal and technological measures. The practices of countries with different infrastructures - Estonia, India, the USA and African countries - show that digital governance, progressive tax rates, mobile fiscal technologies, and control systems based on artificial intelligence have become important tools for ensuring social equality. This section analyzes the mechanisms introduced on the example of the studied countries, their level of effectiveness and possible implementation aspects for Uzbekistan.

Proposals:

Form a single digital tax platform. It is necessary to create an integrated information system that ensures real-time information exchange between taxpayers, the banking system and other state bodies.

Strengthen data security. It is advisable to improve cybersecurity protocols for storing and processing tax data based on international standards and introduce a risk analysis system using artificial intelligence.

Increase the digital competence of tax officials. It is necessary to introduce regular training programs on digital literacy and technological innovations for employees of state tax service bodies.

Adapt international experiences. Advanced digital tax management models used in the experiences of the USA, China and South Korea should be implemented in a manner adapted to the national characteristics of the tax system of Uzbekistan.

Expand convenient digital services for taxpayers. It is recommended to reduce the administrative burden on taxpayers by developing mobile applications, electronic invoices and automatic tax calculation systems.

Introduction of digital control and analysis systems. It is necessary to automate the tax collection process based on artificial intelligence and "Big Data" technologies, and to form a system for early detection of clandestine economic activity.

References

1. Davlat soliq qo‘mitasi ma’lumotlari. www.soliq.uz.
2. Efeeloo N. & Disk N. (2018). An Empirisal Review of the Determinants of Tax Evasion in Nigeria: Emphasis on the Informal Sestor Operators in Port Harsourt Metropolis. Journal of Assounting and Finansial Management, 4(3), 1–10. https://d1wqtxts1xzle7.sloudfront.net/63209917
3. Johnson Janet Berry (2022) Tax Liability: Definition, Salsulation, and Example. The investopedia team. Ostober 26, https://www.investopedia.som/terms/t/ taxliability.asp.
4. Josephson Amelia (2022) The Ultimate Guide to Tax Liability. November 16,. https://smartasset.som/taxes/tax-liability.
5. Masslet D., Montmarquette S. & Viennot-Briot N. (2019). San whistleblower programs reduse tax evasion? Experimental evidense. Journal of Behavioral and Experimental Esonomiss, 83, 101459. https://doi.org/10.1016/j.soses.2019.101459.
6. N.K.Muxammadov “Ma’lumotlarni elektron hujjat aylanish tizimida shakllantirish orqali soliq ma’murchiligini takomillashtirish masalalari” mavzusidagi dissertatsiya ishi. Toshkent 2024 – yil, 156 bet.