

# ISSUES OF USING INFORMATION TECHNOLOGIES IN THE SECURITIES MARKET OF UZBEKISTAN

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**Annotation.** In today's stock markets, information technology plays a key role in ensuring efficiency, speeding up processes and reducing transaction costs, increasing security and protecting data. This article explores the role and significance of IT technologies in the stock market of Uzbekistan.

**Keywords.** Technologies, stock market, availability of information, traders, investors.

## **Introduction.**

Currently, the stock market is one of the key segments of the financial system of Uzbekistan. The stock market is a mechanism through which the purchase and sale of securities such as stocks and bonds, as well as potentially other financial instruments, are carried out.

The stock market was created to ensure transparency, efficiency and sustainability of the country's financial system. It performs several important functions, including mobilizing capital, providing financing for enterprises and developing the investment sector.

The main trading instrument on the stock market of Uzbekistan is shares, which represent an ownership stake in a company. In recent years, there has been an increase in interest in investing in shares of Uzbek companies from both local and foreign investors.

There are several main participants in the stock market of Uzbekistan, including the securities exchange, brokerage companies, investment funds and other organizations specializing in on financial transactions.

Despite significant progress, the stock market of Uzbekistan still faces some challenges. Further efforts needed towards improving transparency, regulation and risk management in the market, as well as developing new tools and products to stimulate further development of the stock market of Uzbekistan.

There is a growing dependence on the stock market of Uzbekistan from the use of IT technologies for effective functioning and development.

The research is determined by the following reasons.

Firstly, modern IT technologies have enormous potential for improving processes in the stock market, including trading, calculations, accounting and data analysis, as well as ensuring the security and confidentiality of information. Understanding the current state of the use of IT



technologies in the stock market of Uzbekistan is important for identifying potential problems and opportunities for updating, modernizing systems and processes.

Secondly, the development and use of IT technologies in the stock market of Uzbekistan can help improve the efficiency of operations and attract new investors, which, in turn, contributes to economic growth and development of the country as a whole.

Thirdly, the Uzbek stock market is at the stage of active development and modernization of its infrastructure systems. A study of the current state of the use of IT technologies will allow us to identify the highest priority areas for investment and further development, and identify potential obstacles and challenges that may arise in the process of implementing technological innovation.

This study is of great relevance in the context of the development and improvement of the stock market of Uzbekistan using modern IT technologies. Understanding the main characteristics of the stock market of Uzbekistan is an important step to study its condition and development. This will allow us to identify potential and problems, as well as find opportunities for the use of IT technologies in this area.

#### **Characteristics of the stock market of Uzbekistan.**

One of the main characteristics of the stock market of Uzbekistan is its dynamism and rapid development. The main characteristics of the stock market of Uzbekistan, which are important for understanding and reviewing its condition and further development.

1. Market capitalization: The stock market of Uzbekistan has significant potential, reflected in market capitalization, which indicates the total value of all issued shares and bonds in the market. This figure is a key indicator of the state and development potential of the market.

The figure below shows data from the Republican Stock Exchange "Toshkent" on the market capitalization of the stock market during the period from 2018 to August 2023 with comparison to the number of joint stock companies - issuers of shares, as well as to the gross domestic product (GDP) of the Republic of Uzbekistan. As you can see, under the influence of the consequences of the Covid 19 coronavirus pandemic in the period 2020 – 2021. There has been a decrease in market capitalization, and as a result of measures taken by the Government of the Republic of Uzbekistan to develop the country's stock market and accelerate economic reforms, a significant increase in market capitalization indicators of the stock market in general terms and relative to the share of GDP has been provoked, with a decrease in the number of issuers. It should be noted that the adopted legislative acts with the assistance of international financial institutions and consultants give impetus to the development of the securities market.

## Рыночная капитализация



Figure 1. Market capitalization of the stock market from 2018 to August 2023 <sup>1</sup>

2. Number and variety of companies: There are many companies on the stock market of Uzbekistan offering their shares and bonds to investors. This includes both large state-owned enterprises and private companies in various industries, which promotes a diversity of investment opportunities and ensures strategic development of the market.

3. Role of the state: State support and regulation of the stock market play an important role in its development. The government of Uzbekistan is taking active measures to stimulate investment and create a favorable investment environment, which has improved the conditions for the development of the stock market in the country.

4. Trading platforms and infrastructure: The Uzbekistan stock market offers several trading platforms where investors can buy and sell stocks and bonds. In addition, the market infrastructure is constantly being modernized, which promotes efficient trading and increased transparency of transactions.

5. Market Participants: The stock market of Uzbekistan includes various participants, including investors, traders, brokers, company representatives and regulators. It is important to study their role and interaction to fully understand the functioning and state of the market.

<sup>1</sup> Data from the Republican Stock Exchange "Toshkent"

**KEY INDICATORS OF THE SECURITIES MARKET (UZS billion)**

01.10.2023

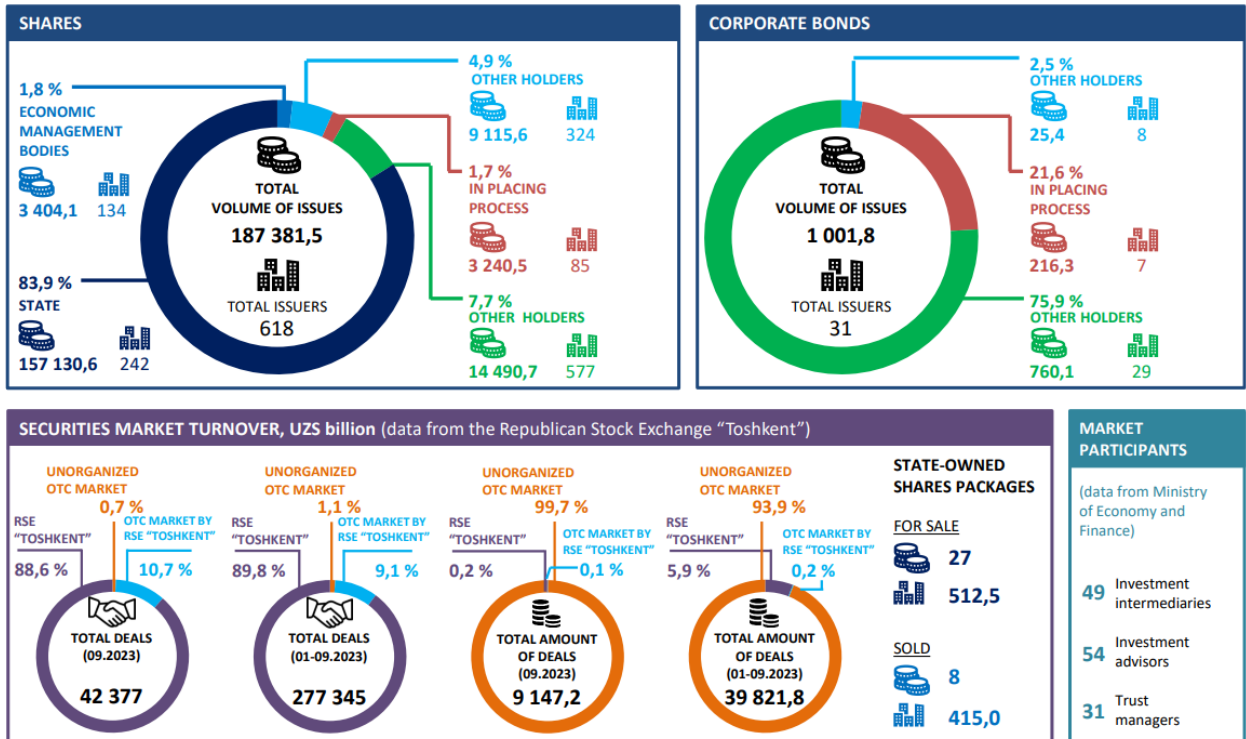


Figure 3. Key indicators of the securities market as of October 1, 2023<sup>2</sup>

**Literature review.**

In the work "Information technology in securities trading: Global and local perspectives" (A. Vashishtha, 2019), the author explores global and local aspects of the use of IT technologies in securities trading. In his work, the author draws attention to the advantages of electronic trading platforms, such as increased transparency and liquidity, as well as the ability to quickly access information and improve operational efficiency.

In the article "The Impact of Information Technology on the Stock Market Efficiency: Evidence from Emerging Economies" (M. Samimi, N. Samimi, 2018), the authors explore the impact of information technology on stock market efficiency in developing countries. The authors come to the conclusion that the use of IT technologies leads to more efficient pricing and lower trading costs.

In "IT Trends in the Financial Industry: Taking Stock" (J. Kalakota, A. Robinson, 2001), the authors consider current trends in the use of information technology in the financial

<sup>2</sup> Data from the Central Securities Depository of the Republic of Uzbekistan and the Republican Stock Exchange "Toshkent"



industry. They highlight the role of IT technologies in providing improved customer service support, automating trading operations and increasing transparency.

It is also worth noting the study “The Impacts of Information Technology on Stock Market Efficiency: Evidence from Greater China” (H. Han, Y. Li, 2017), in which the authors study the impact of information technology on the performance of the stock market in China. They come to the conclusion that the use of IT technologies helps to increase market transparency, reduce costs and improve the quality of trade.

The use of IT technologies in the stock market of Uzbekistan has the potential to optimize operations and increase efficiency. Works by such authors as A. Vashishtha, M. Samimi, N. Samimi, J. Kalakota, A. Robinson, H. Han, Y. Li, provide useful information about the advantages and possible benefits of using IT technologies in the financial sector.

### **Research methodology.**

When writing this article, the following methods were used: survey, analysis, induction, deduction, synthesis, generalization and comparison of information.

### **Discussion and result.**

Currently, almost all transactions carried out by participants in the domestic securities market go through the system of the Unified Software and Hardware Complex (USHC) of the stock market, supplied by the Korean Stock Exchange. This system, which serves accounting, storage, trading and clearing systems with securities. The main objectives of USHC are:

implementation of information, software and hardware support for the operation of the Stock Market; use of modern software and hardware interactive tools for organizing securities trading;

information technology as a single software, hardware and administrative resource, a means of improving the quality of service, accessibility, reliability and administration of USHC;

forms for submitting USHC on the Internet;

training of qualified specialists (traders, etc.);

analysis and prevention of existing software and hardware security threats;

telecommunications projects as a means of improving the quality of the trading process;

increasing the efficiency of use of information resources by stock market participants;

creation and filling of a unified information and technical database on the stock market.

The system is a flexible and adaptable set of software and hardware modules. Each subsystem performs the following role in the entire IT system, and the system as a whole provides comprehensive functionality covering all processes in the securities market.

Trading system



The system provides functionality for trading in the securities markets, including trading operations, operations with market information, index operations, and other related activities.

#### Clearing and settlement system

The system provides functionality for calculation on transactions in financial markets, including clearing operations, settlement operations and other related processes.

#### Depository system

The system provides functionality for holding securities on deposit, including maintaining records of securities on deposit, and related processes. The system also provides the ability to carry out securities registration activities, including registration operations, register maintenance and related other operations.

#### Brokerage system

The brokerage system is a complex of services for the purchase/sale of shares on behalf, at the expense and on behalf of the Client. Provides for all actions related to trading on the securities market related to re-registration, accounting and storage of securities. The system provides functionality for application submission, account management, underwriting, review and execution of trades, delivery of market data and account information to clients.

#### Market surveillance system

The system provides functionality to detect abnormal trading, monitor compliance and other related transactions.

According to Doctor of Economics, Professor I. Butikov (finance.uz, 2019), there is a certain financial, intellectual, technical dependence from the Korean Stock Exchange.

As a result of the impact of the Covid 19 pandemic on the market, the Central Securities Depository of Uzbekistan has developed an E-vote software product. The Electronic Voting service is a convenient universal voting tool that allows shareholders/supervisory board members to register at meetings/meetings and vote by filling out the electronic ballot form on the website, watch the webcast of the meeting/meeting, get acquainted with the agenda and materials of the meeting/meeting, maintain online communication with the issuer using a single interface and remote identification using a confirmed account records on the Public Services Portal. To access E-voting, no special technical means are required; connection to the platform is possible from anywhere in the world if you have the Internet. This service has no competitive analogue.

In the field of transparency of the activities of market participants and their disclosure of information, the Unified Portal of Corporate Information operates. This portal contains financial statements, material facts, information on securities issues, announcements and other information of issuers. Joint stock companies and other issuers included in the stock exchange quotation list are required to disclose identical information on the stock exchange website. Based on the data on the portal and the stock exchange, there is a high potential for compiling an analytical passport for each issuer, identifying patterns and deviations in their activities.



Table 1.  
Disclosure of information by securities market participants in 2023<sup>3</sup>

<b>Name</b>	<b>Joint stock companies</b>	<b>LLC</b>
Total issuers	615	22
Total information disclosed	5479	21
Essential Facts	4158	20
Prospectuses	12	1
Quarterly reports	895	0
Annual reports	389	0
Company charter	202	1

The stock market of Uzbekistan is actively introducing and developing ICT (Information and Communication Technology) technologies in its trading system. One of the main characteristics of the development of electronic trading in the stock market of Uzbekistan is the introduction of electronic trading platforms and systems. This allows investors and traders to conduct transactions with securities without leaving their office or home. Online trading has become a significant element of the stock market of Uzbekistan, providing convenience and accessibility to a wide range of market participants.

### **Conclusions and offers.**

IT technologies undoubtedly play an important role in the modern development of the financial sector. Over the past decades, they have undergone significant changes and have become an integral part of financial transactions. In particular, the influence of IT technologies on the stock market of Uzbekistan is fundamental. Thus, IT technologies will ensure efficient functioning, improved market access and increased security of operations. The introduction of modern IT solutions will help create competitive advantages for market participants and contribute to the development of the financial sector as a whole.

The use of IT technologies in the financial sector will significantly improve the efficiency of financial transactions and improve the level of service to investors. Thanks to process automation, IT technologies make it easier to perform many tasks, such as data processing and analysis, market monitoring, transaction execution, etc. This allows you to

<sup>3</sup> Data from <https://new.openinfo.uz/facts>



significantly reduce the time spent on performing such operations and reduce possible errors. Thanks to electronic platforms and online trading, investors have the opportunity to receive up-to-date and accurate information about market conditions, current quotes, company financial reports and other important data. This allows them to make informed investment decisions and minimize risks.

Having a reliable and efficient IT infrastructure plays a key role in ensuring the stable operation of the stock market and access to information. This allows you to carry out transactions with securities, carry out trading operations and manage portfolios with a high degree of reliability and efficiency.

Lack of experience in implementing new IT solutions, lack of general standardization and legitimation of e-commerce, as well as weak infrastructure in certain regions of the country - all these factors influence on the efficiency of using IT technologies in the financial sector.

It is important to note that the IT technology infrastructure must be reliable, high-speed and accessible to all market participants in order to guarantee the effective functioning of the stock market of Uzbekistan. Modern information systems make it possible to detect and prevent fraudulent transactions, as well as guarantee the confidentiality and protection of investors' personal data. The high level of risk of hacker attacks and fraud requires taking specific measures to protect the data of investors and traders. The introduction of modern automation and authorization systems, as well as the use of blockchain technologies, is becoming a necessity to ensure security.

To successfully realize all the benefits of digitalization of the stock market, it is necessary to continue to develop and improve the IT infrastructure, including:

- direct efforts to improve the unified software and hardware complex of the stock market, taking into account the modern needs of users, introducing a data analysis system, reducing technological dependence on the Korean Stock Exchange;
- promoting the creation of a competitive environment in the provision of digital services;
- further improvement of investors' capabilities for remote management of assets in the securities market;
- and finally, taking measures to educate and train specialists in the field of financial IT technologies in collaboration with specialized educational institutions, professional communities and IT parks.

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