



DEVELOPMENT OF MODERN INNOVATIVE TECHNOLOGIES IN THE REPUBLIC OF UZBEKISTAN.

Narziev O.S., Nabiraeva Z.A. *

¹Tashkent State University of Law, Uzbekistan

²Tashkent State University of Law, Uzbekistan

*(nzarnigor09@gmail.com)

Abstract: This article discusses the development of the legislation of the Republic of Uzbekistan in the field of artificial intelligence, financial technologies, machine learning and provides suggestions for their improvement, as well as describes modern financial technologies "Fin-Tech". Financial technology is explored in various financial sectors, including blockchain systems, and their divisions, such as smart contracts and algorithmic money management robo-advisors. Financial technology offers opportunities such as lower costs, improved financial products and services, greater access to credit and financial services, and new risks and challenges for regulators, which means creating laws that accurately account for new technology and go hand in hand with evolving innovations. Recently, online platforms have become a popular way to invest. Robo-advisors are a new way to manage assets. They make it easier and cheaper to automate investment decisions and increase access to wealth management services. The financial industry is constantly adopting new technologies to provide financial services in cheaper and more efficient ways. Some examples of technological innovations in finance include ATMs, mobile payments and blockchain - based trade finance. Currently, the technological breakthrough has reached the field of wealth management services, where automated financial advisors, known as robo-advisors, are beginning to compete with human advisors. Investing through automated online platforms known as robo-advisors is becoming increasingly popular. Financial technology is in its infancy, and researchers are just beginning to understand the implications of how it will change the financial industry. As these automated services proliferate, regulators will need to take a more active role in assessing minimum competence, protecting users, and ensuring access to high-quality data.

Keywords: Artificial Intelligence, Fin-Tech (Financial Technology), Blockchain, Smart Contracts, Robo-Advisors.

I. INTRODUCTION

Today, all over the world, information technology is developing with intensity. This was also caused by the outbreak of COVID-19, during which, people could not carry out their every-day tasks directly, but these needs could not be postponed. Although we can argue that there was interest in artificial intelligence before that, the worldwide pandemic greatly accelerated the process. That is when the need to develop artificial intelligence arose. The

Republic of Uzbekistan aims to become one of the most innovative and technologically advanced countries in the world. In this regard, a number of decrees and resolutions were adopted: the Decree of the President of the Republic of Uzbekistan, dated 03.07.2018, № PP-3832 "On measures to develop the digital economy and the sphere of circulation of crypto-assets in the Republic of Uzbekistan"; the Decree of the President of the Republic of Uzbekistan, dated 17.02.2021, № PP-4996 "On

measures to create conditions for accelerated implementation of artificial intelligence

technologies"; the Decree of the President of the Republic of Uzbekistan, dated 28. 01.2022, № UP-60 "On the Strategy of development of New Uzbekistan for 2022-2026"; Decree of the President of the Republic of Uzbekistan, dated 06.07.2022, № UP-165 "On approval of the Strategy of innovative development of the Republic of Uzbekistan for 2022-2026" and other regulations accelerated digitalization of our country, aimed at introducing the latest technologies in the economic sphere. These documents constitute a comprehensive plan that defines research into the use of artificial intelligence, cryptography, machine learning, big data analysis and cloud computing technologies and their actual introduction into the economic sector as one of the areas of development of the digital economy.

Since our state is a full member of the global community, it takes everything new and useful for itself. In this article, we will discuss new concepts such as "Fin-Tech" (short for "financial technology"), the blockchain system, smart contracts and robo-advisers, which have begun to be effectively applied to the economy in many developed countries.

Financial technology first appeared in Western countries, namely the United States. Cooperation with these countries made it possible to create and develop financial technologies based on their experience.

In the decade since the global financial crisis, financial markets, products and services have undergone significant technological changes. The proliferation of smartphones and cell phones has been accompanied by advances in artificial intelligence (AI) and data management, as well as innovations such as distributed ledger technology (blockchain) and machine learning. These factors, as well as the arrival of a generation that grew up with the Internet in a financial environment, have stimulated entrepreneurial activity aimed at integrating technology into financial market products, processes and services. This phenomenon is commonly referred to as "Fin-Tech," and its impact can be seen in several financial sectors with different regulatory aspects [1].

Fin-Tech is a technology that supports financial services and corporate financial management. It

includes software, applications, processes, and business models. FinTech is also described as an industry in which companies use new financial technologies and solutions to compete with traditional financial institutions for customers' hearts and money. Often these are technology startups or companies that use fintech tools to improve their services. For example, China's WeChat is a suite of applications provided by a holding company Tencent. The platform includes a "WeChat Payments" option that allows one in five users (889 million people use the app monthly) to link their bank card and access a "wallet," all commerce features, and merchant accounts. Smartphones help pay for many products and services offline and online [2].

And **blockchain** is a continuous, consistent chain of blocks and transactions built according to a set of defined rules. Blockchain technology can provide a high degree of data protection, integrity, and security in almost any area. The fundamental principle underlying this system is that it is open. The blockchain-based data log is shared among all participants in the network, where each participant has full access to the entire database and history of their transactions and guarantees the integrity, permanence, and reliability of the data.

Today, we can distinguish three main trends in the development of blockchain technology:

1. used to implement cryptocurrencies;
2. smart contracts and financial instruments;
3. applied in areas other than finance, with the potential to transform social life [3].

Smart contracts work based on blockchain technology. A smart contract is an algorithm designed to automate the contracting process. Simply put, it consists of a set of rules and a series of actions to execute them. These rules are stored to negotiate the terms of the contract, then automatically verified, and then executed according to a digital protocol. Let's take a look at how smart contracts work. Let's take a simple one example of a contract for the sale of goods. Suppose, for example, you want to buy appliances from someone at an online marketplace in another city. The problem is that there's no way to see the recall information on the item, and the seller has asked for an upfront payment. You need to make an advance payment. The prepayment is necessary because the seller is afraid that if he sends the package by cash on delivery, you will not pick it up, and he will lose

money for shipping there and back, i.e. he will make a loss. You, for your part, are afraid that the seller will turn out to be a scammer, embezzle your money and not send the goods or send the wrong one. For this reason, a program has been developed that establishes obligations for both parties in the contract and automatically sanctions for breach or default. Smart contracts ensure the security of the transaction and lack the risk of ambiguous interpretation of the terms due to the fact that they are based on cryptography. These transactions are more profitable financially, as a person doesn't need to pay lawyers, intermediaries or sue for breach of contract. Moreover, the fulfillment of transaction conditions is automatic with minimal expenses for their support without involving third parties [4].

The next type of financial technology is robo-advisors. Robo-advisors have become an alternative to financial advisors for monetary transactions, such as banking transactions and the purchase of certain goods. Robo-advisors offer significant advantages in online commerce. These include one-click applications, real-time account opening, monitoring, breaking news, and instant processing of large transactions, among others [5].

Mandatory elements of a trust management service received through a robo-adviser:

- risk profiling;
- remote opening of an investment account;
- creation and maintenance of the investment portfolio (selection, formation, and regular rebalancing).

The robo-adviser's work usually consists of several stages. The work begins with an analysis of the client: the age of the investor, the expected amount of investment, and risk profile (risk appetite and risk aversion), and a suitable portfolio is prepared for the investor. It usually consists of exchange-traded funds (ETFs) that provide an appropriate level of diversification and an optimal risk/return ratio. The investor opens an account with a robo-adviser and makes a deposit, and the algorithm automatically creates and maintains the optimal combination of asset weights for the portfolio. Simply put, a robo-adviser is a robo-assistant that studies your preferences and goals, generates recommendations for you, and helps you manage your portfolio and achieve your goals. How does it do this? Let's use one portfolio client as an example to show both sides of the story. In reality, the robot's algorithm is more complex, but we will

try to simplify it. This client has a goal of saving 1 million over two years to make a down payment on a mortgage and buy an apartment. Right now he only has 400,000,000, but he can save 10,000,000 every month. If he puts the money in the bank, after 4-5 years at most he will have 1 million in his account, but he needs 1 million in two years already, so he asked our financial robot for help [6]. As they say, time is money! Now investors are interested in how they can earn a lot in a short period. Robo-advisors meet all the criteria.

In general, all these financial technologies are new to the Republic of Uzbekistan. So far they are at the stage of development. But there is a probability that this industry will become relevant in Uzbekistan in the near future. However, for this to happen, it is necessary to solve some issues.

- Improve the regulatory framework;
- To study foreign experience;
- State support;
- The creation of Authorized Bodies in this area.

Improving the regulatory framework implies, we will not start a revolution, as there is no need to fundamentally change the existing legal system. We can change it, albeit gradually, by creating a legal framework for AI and fin-tech technologies. Fin-tech is a dynamic industry of innovation that will continue and new products will emerge, hence the legal framework governing these institutions must be "adapted" to ensure effective risk and benefits management.

The regulation of these activities should be adopted on the basis of international laws and standards. Without international scientific and technical cooperation, it is almost impossible to develop fin-tech. This is due to the fact that they first appeared in the United States and other Western countries. Cooperation with these countries will make it possible to create and develop financial technologies, relying on their experience.

We also need to implement digitalization of the country's economy, development of financial technologies and industrialization, and provide state support, so that investors would have the incentive to work in this area, we also think it is necessary to create controlling bodies in this sphere. The implementation of these tasks requires joint efforts of the state, investors, and all of us!

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