



**THE PRACTICE OF DIGITALIZATION OF EVALUATION  
ACTIVITIES AND THE PROSPECTS OF ITS APPLICATION IN  
UZBEKISTAN**

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**A B S T R A C T**

The article discusses the need to develop the market for appraisal services, which is one of the important infrastructures of a market economy. The digitalization processes taking place today all over the world, the introduction of artificial intelligence in various fields and their impact on valuation activities are revealed. The prospects and practical problems of digitalization of appraisal activities in the Republic of Uzbekistan and the introduction of artificial intelligence in this area are highlighted.

**KEY WORDS**

Assessment activities, assessment, digitalization, artificial intelligence, digitalization of assessment activities, assessment standards, digital technologies, assessment organizations, qualification certificate.

**Introduction**

In the modern world, it helps to modernize the economy, banking and finance sector and successfully develop business, gives a conclusion about the value of all assets that are considered the object of assessment for individuals and legal entities, and provides them with advice, guidance and in order to improve their activities. there is a growing demand for other types of professional services - assessment activities. Along with the development of assessment activities in our country, great work is being done to regulate and strengthen legislation in this area.

The fourth industrial revolution is the digital economy. The state is taking large-scale measures to develop the digital sector of the economy in our country, electronic document circulation systems are being introduced, electronic payments are being developed, and the regulatory legal framework in the field of electronic commerce is being improved - this is the basis for the development of today's new Uzbekistan. are huge steps that are being taken. The digital economy operating on information technology platforms is rapidly developing, which necessitates the creation of new models of such platforms. "Blockchain" technologies (distributed data registry technologies), "artificial intelligence", using the capabilities of supercomputers, as well as activity on crypto-assets are one of the directions of development of the digital economy in many countries of the world.

"Big data analysis" and "artificial intelligence" technologies are gradually introduced not only to many sectors of the economy, but also to the public administration system and other public relations.

The world is changing day by day, technologies are changing, artificial intelligence is rapidly entering our lives. In order to facilitate the work of appraisers to a certain extent, new legal documents are being complicated. In recent years, many professional programs, electronic databases and algorithms have been developed by specialists in the field of digital technologies. They allow evaluators to significantly reduce the time associated with the calculation of indicators and provide the most accurate information on the objects of evaluation.

## 2. Literature Review

A number of foreign economists-scientists have researched the issue of digitalization and further improvement of evaluation activities in the economic literature. Although the topic of using artificial intelligence and digitization in evaluation activities is a relatively new topic today, scientific work has been carried out by a number of experts in the field. However, textbooks and training manuals on the digitization of assessment activities and the use of artificial intelligence have not yet been published not only in our country, but also throughout the world. Among the foreign scientists in this field - member of the board of directors of the RICS society Laura Piantanida and members of the expert group, technical director of the IVSC board Alexander Aronsohn [1], A. Damodaran [2], D. Glavas [3], F. Research by Mohammadyari, M. Tavakoli, A. Zarandian [4], and B.K. Lukanima [5] can be seen.

In the scientific research works and scientific-theoretical researches carried out within the framework of this topic, the real essence of the concept of investment attractiveness has not been fully studied in a complex and systematic way.

## 3. Research Methodology

During the research, systematic analysis, statistical groups and comparative analysis, expert assessment and other methods were used.

## 4. Analysis and Results

Today, through the introduction of digital technologies, changes are taking place in all aspects of society's life. Digitization is actively entering various processes, from the provision of public services to the creation of new products. Organizations that use modern technologies and developments are improving their economic performance by saving time, resources, and establishing business processes, from document circulation within the company to maximizing interaction with customers. Any modern organization must adapt to the constantly changing external environment. Development of new products, entering international markets, attracting additional funds, marketing activities - all this accelerates many complex operations, financial planning, financial consolidation. All these processes are optimized through the use of digital developments and internet platforms to manage them.

Digital technologies are also rapidly being used in the financial sector, and in a few decades, IT technologies have fundamentally changed the banking and financial sector. Digital technologies enable faster and more accurate reporting in real time and create favorable conditions for financial management in general.

Digitization of the banking and financial sector ensures transparency in the management of financial resources of both state and commercial organizations. The new digital economy is based on various

rules and principles, including: big data and data analysis, mobile technologies, artificial intelligence, robotics, biometrics, distributed ledgers (blockchain) and cloud technologies (cloud). ) such as new fields. The digital economy is an activity that is the main factor of digital data, which allows to improve the quality and efficiency in the production, sale, storage and delivery of goods and services, their processing and use in large volumes.

As a result of the author's research, 90 percent of the leaders in the field of banking and finance say that big data (big data), data analysis, mobile technologies, artificial intelligence and cloud technologies will become one of the most important points of the banking and finance field in the future.

Artificial intelligence (AI) is a direction at the intersection of a number of scientific disciplines: computer science, philosophy, cybernetics, psychology, mathematics, physics, chemistry, etc. The term artificial intelligence is usually used to refer to a computing system performing tasks that are typical of human intelligence, such as logical reasoning tasks and learning. Any problem or incomplete data for which the solution algorithm is not known in advance can depend on the tasks of the field of artificial intelligence. This is, for example, playing chess, reading a text, translating a text into another language, etc.

The study of artificial intelligence first began to take place in the middle of the 20th century, after the necessary knowledge was accumulated in the relevant scientific fields. The creation of the first computers, which became the basis for further research, can be considered the initial factor of the rapid development of artificial intelligence.

The capabilities of new machines in terms of accuracy and speed of calculation are greater than those of humans, which has opened wide prospects for the creation of intelligent machines. It is natural to ask the question in the scientific community: what are the limits of the capabilities of computers and can machines reach the level of human development? The answer to this question is closely related to the concept of "level of intelligence". One of the classic tests of machine intelligence is a test published in 1950 by the famous English scientist Alan Turing. Its meaning is as follows - a computer can be considered endowed with "intelligence" comparable to a human, if the person communicating with it cannot determine whether he is talking to a person or a computer program. At the same time, all communication takes place only through the means of sending text messages, so a person can completely focus on the content of the conversation.

The person, in turn, can ask any question that reveals the essence of the interlocutor. This method has a number of important advantages: it provides an objective and clear concept of intelligence, it eliminates the contradiction in favor of living beings. However, some researchers object to this method of measuring "intelligence", arguing that, in the first place, machine intelligence can be so different from human intelligence that it would be a fundamental mistake to test it by human criteria. they know it is possible.

Artificial intelligence is one of the most advanced areas of research for scientists today. In the most diverse fields of science and technology, machines were required to perform tasks that were previously only possible for humans. Systems created on the basis of artificial intelligence, both software and technical tools are increasingly used in technology. Artificial intelligence is an integral part of the production of technological systems. They collect and process diagnostic information about the production process. Human resources cannot process such a flow of information. Intelligent systems are increasingly becoming a part of everyday life - today elements of artificial intelligence

can be found even in household appliances.

First of all, it is necessary to highlight the software. First of all, there are expert systems and character recognition systems. Expert systems can incorporate a large amount of knowledge and skills specific to a human expert or group of experts. These systems, even with their own limitations, are of great importance, especially in geology, medical diagnostics and some other fields.

**There are two main directions of artificial intelligence development:**

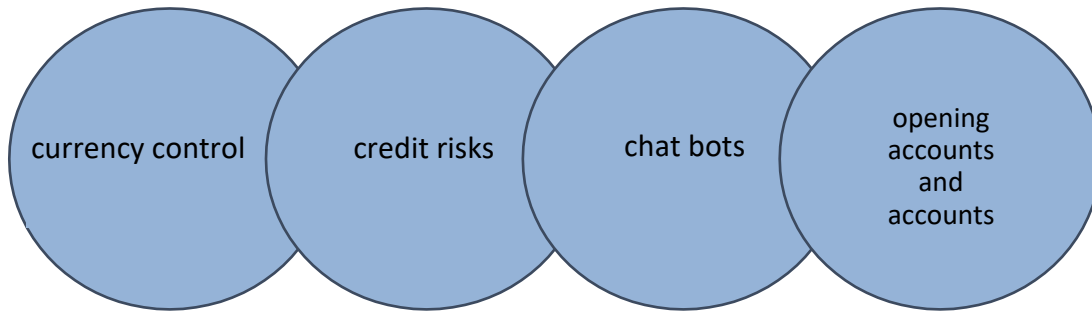
1. Deductive (semiotic) - creation of expert systems, systematic logical conclusions and knowledge bases imitating high-level mental processes: thinking, emotions, speech, creativity, etc.;
2. Elevating (biological) - the study of neural networks and evolutionary calculations modeling intellectual behavior based on biological elements, as well as the creation of computational systems such as biocomputer or neurocomputer.

Conducting any research in the field of artificial intelligence is associated with a number of difficulties. Firstly, there is still no complete and clear understanding of the principles of the human brain, the processes that take place in it. This creates difficulties in applying the incremental approach. Secondly, there is a fundamental difference between natural and artificial intelligence. The human brain works with structural, indivisible units - "images", which are a compressed stream of sensory information, while artificial intelligence today takes the opposite approach, using only zeroes and ones. Therefore, it is difficult to systematize "images". This makes it difficult to use a top-down approach.

Based on experiments, it was found that the nervous structure of the brain is arranged in a fundamentally different way from the technical environment, in terms of the way calculations are performed. The type of brain signal modification depends not only on the method of changing some time-frequency parameters used in technical devices, but also on the spatial position of the neuron involved in the data processing process. The detector principle of information processing in the neural environment is implemented when each neuron is responsible for strictly defined signs of a process or event. Question: Can a computer think? Today, it depends only on what meaning is included in the concept of "thinking". If the ability to think formally or to perform complex mathematical operations is meant, the answer can be yes. If thinking is understood as a process of creating new concepts that goes beyond formal mathematical and logical operations, which consists in comparing several fields of knowledge and finding important similarities between them, then the answer for modern intellectual systems is negative.

The main benefits of using artificial intelligence are obtained by optimizing business processes and expanding the possibilities of automation and robotization of manual labor; restructuring of the global labor market and privatization of educational processes; change in favor of developing conceptual thinking; exclusion of subjectivity and irrationality in decision-making.

Artificial intelligence can be presented in two forms in banking and finance - first of all, as a physical embodiment in the form of various robots, and that is, a virtual implementation of artificial intelligence provided by robo-advisors or virtual assistants, and chat bots . Areas of application of artificial intelligence in banks are currency control, credit risks, opening of current accounts, etc. [6] (Fig. 1).

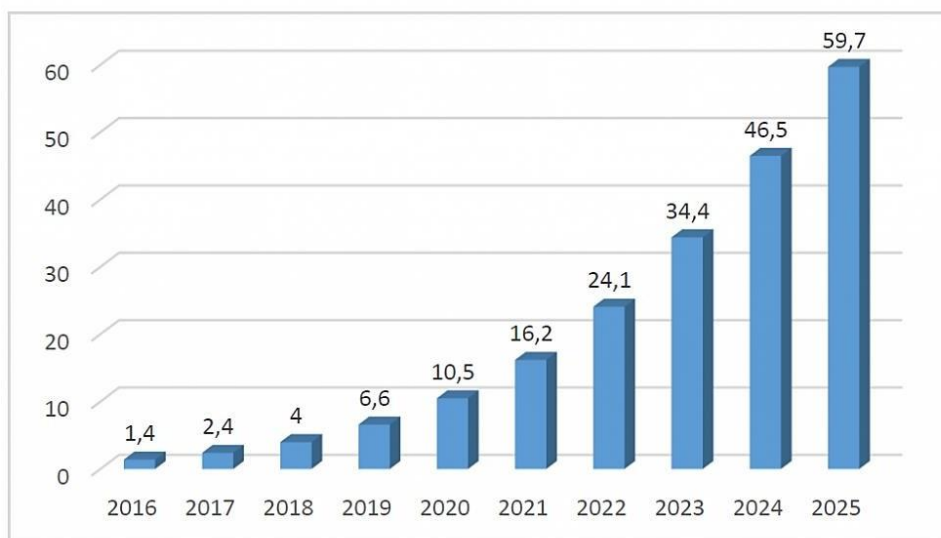


**Figure 1. Areas of application of artificial intelligence in banks**

The advantages of artificial intelligence, as well as the main reasons for the successful use of SI in the field of banking and finance:

- An enhanced security system that consists of detecting fraudulent behavior, repelling potential cyber attacks and identifying suspicious items;
- Speed of information processing - fast and reliable processing of large volumes of data;
- Automation of processes - the ability to automatically create documents, as well as control budget execution;
- Better understanding of business processes - the results of processing large volumes of data help to understand the current state of affairs and make appropriate decisions.

According to the research of researchers of the Russian Higher School of Economics, the introduction of artificial intelligence technologies is increasing day by day. From Figure 2 below, we can see that in 2016, 1.4 billion US dollars were spent on artificial intelligence worldwide, and this figure will reach 59.7 billion US dollars by 2025. or it is expected to increase by 42 times. 2.3 million jobs will be created by 2020 in industries worldwide through the use of artificial intelligence, and 20% of the world's workforce today rely on artificial intelligence technologies regularly in their work. By 2025, 85% of the world's workers are expected to regularly rely on the help of artificial intelligence technologies in their work. According to forecasts, by 2030 the world gross domestic product will exceed 15.7 trillion dollars.



**Figure 2. Artificial Intelligence Market Size (in billion USD)**

McKinsey Global Institute [7] predicts that by 2030, due to the introduction of artificial intelligence, 14% of the world's workers (about 375 million people) will have to change their jobs, because their activities will be automated. Uzbek experts also share their opinions. According to them, significant shifts in the labor market will occur during the introduction of artificial intelligence tools at various stages of production. Another human resources issue is related to questions about whether the skill level of employees is up to the challenges of implementing artificial intelligence. Today, there is a shortage of highly qualified specialists in many fields, and the implementation of artificial intelligence programs requires high-level digital skills from almost all employees of companies. One of the means of employee development can be internships and exchange of experience with foreign companies that are successfully implementing similar programs.

In Uzbekistan, this indicator is as follows: as of January 1, 2022, the number of labor resources in Uzbekistan amounted to 19 million 345 thousand people. 1 million 441.8 thousand people need work in the country, unemployment rate has reached 9.6%. The unemployment rate among young people was 15.1 percent, and among women it was 13.3 percent [8].

Through the introduction of artificial intelligence tools, not only jobs will be reduced, but also new jobs will be created in the country. After all, at the opening event of the 2022 "International Forum on Poverty Reduction" held in Bukhara, Deputy Prime Minister - Minister of Economy and Finance Jamshid Kochkarov said that poverty will be reduced in Uzbekistan by 2026 and listed the measures to be taken to reduce unemployment by 2 times [9]:

- ❖ to provide the necessary conditions for the development of the private sector, including small and medium-sized businesses, thereby creating stable jobs;
- ❖ development of human capital and increase of labor productivity;
- ❖ increasing the amount of state resources directed to social projects due to liberalization of energy resource prices and reduction of ineffective subsidies; in this process, focus on protecting low-income families;
- ❖ transformation of state enterprises, acceleration of privatization, improvement of competition and business environment in this process;
- ❖ increasing productivity in agriculture, first of all, deepening land reforms;
- ❖ acceleration of transition processes to green and digital economy.

If the transition to a green and digital economy in our country is paid attention to at the government level, this process should be accelerated and reflected in people's lifestyle - this should be one of the most important tasks for government leaders.

## 5. Conclusion and Suggestions

Based on the results of the above analysis, we found it necessary to make the following suggestions and recommendations:

1. Use of technology - evaluators must embrace changes in how large volumes of data are collected and greater use of automated evaluation models.
2. Being able to respond to the client's demand - it is always necessary to take into account the importance for the client of developing new methods of reporting the evaluation based on the demand of the traditional customers of the evaluation activity and being able to use the provided evaluation reports and data in the future.
3. Ensure independence and impartiality - the evaluator is independent in his work and must adhere

to professional ethics of impartiality in all evaluation processes, because without independence and impartiality there is no trust.

4. Being responsible - that is, responsibility, the evaluator should be responsible in all processes that must be performed before the client, that is, he should not forget that he is responsible for the evaluation report in any case.

5. Shortening time scales - by digitizing the evaluation activities, using the latest technologies, in particular, with the help of innovative solutions such as working with large volumes of data, blockchain technologies, artificial intelligence algorithms and smart contracts, appraisers can make their profession more concise and they prevent time wastage. However, it should be noted here that the shortened evaluation process should not negatively affect the quality of the evaluator's work.

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