



OPPORTUNITIES PROVIDED BY THE DIGITAL ECONOMY FOR THE DEVELOPMENT OF AUDITING

Turaeva S.F.

Tashkent Institute of Finance
+998977698292

Sevaraturaeva01@gmail.com

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ABSTRACT

The digital economy creates new opportunities for the development of all types of economic activity. First of all, it allows to improve the organizational, technical and methodological support of information services, which include audit services. Emerging technologies based on artificial intelligence, descriptive and predictive analysis of big data can find an applied aspect in the digitalization of audit activities, which will contribute to speeding up the collection of information, the transition from manual procedures to machine processing of information, algorithmization of planning and an in-depth understanding of the activities of audited entities. As the market for high (hi-tech) and end-to-end technologies develops, the digitalization of information systems of economic entities.

Of particular relevance are the problems of adapting the methodological and organizational and technological tools of auditing to modern conditions. Thus, a paradigm shift is taking place in audit science: the transformation of traditional audit into a form of intellectual (AI audit), the methodology of which is based on machine learning technology in professional area and application of professional knowledge. The article presents the cognitive ecosystem of auditing, which is necessary to identify digital technologies that can be used to implement specific tasks and referral of audits and audit-related services. The application of the ecosystem approach makes it possible to describe the features of the content and functional assigning individual digital technologies to perform cognitive processes in audit activities. The ecosystem proposed in the work can be used as a support mechanism for creating an integrated AI audit system and robotic intelligent assistants in audit organizations and for the development of an audit based on artificial intelligence technology as a field of scientific knowledge.

It should be taken into account that the auditor's profession is highly qualified, and the created audit methods are

an integral part of the intellectual capital of specialists and an audit firm. The quality of audit services and the opinion expressed in the auditor's report directly depend on the auditor's analytical and professional judgment, which is determined by the accumulated experience and work experience, understanding of areas with possible errors and violations. Therefore, in order to improve the organizational and methodological support of audit activities, it is necessary to switch to digital technologies, which will become the basis for the development of intellectual assistants.

The main hypothesis of the study is that the possibilities of digital technologies make it possible to improve the organizational and methodological provision of audit organizations based on the formation of a cognitive ecosystem of audit activities, which in the future will contribute to the development of complex robotic systems.

The article presents a review of the scientific literature and examines the composition of promising digital technologies and the possibilities of their application in auditing, identifies areas for further research. Given a characteristic of the proposed structure of the cognitive ecosystem of audit activity based on the description and functional purpose of AI technologies for performing cognitive processes, the prospects for the development of AI audit are considered as a separate area of scientific knowledge, its comparative characteristics are given with traditional understanding of audit and cognitive audit.

Changes in the means of business communication, the exchange of production and financial information, the emergence of fundamentally new forms of business organization, e-government systems for solving commercial and production problems have led to a revolution in management and marketing, financial and investment flow management. As economic relations and forms of transactions are transformed, the content of financial statements is being restructured:

the number of objects increases, the number of estimates for the formation. indicators (fair, market estimates, estimated and contingent liabilities), to meet the needs of investors, retrospective estimates and probabilistic indicators are included in the reporting.

Not only information from accounting is subjected to modern audit, but also information obtained in the study of economic, technological and managerial processes, the sources of which are both internal and external open data and websiteA distinctive feature of the digital economy is the use in the economic activity of more productive digital

technologies, which contribute to the acceleration of information flows through the work with discrete levels of information signals, which makes it possible to provide high quality of processing and transmission of information, as well as its storage in an unlimited volume. On the way to the formation of a digital economy, there are technological explosions, which are understood as “a combination of technologies, which makes it possible to create new products and services that, on the one hand, form new areas of activity, and on the other hand, radically change existing sectors of the economy” [Sukhareva, 2018, p. 457]. Promising digital technologies include big data, neurotechnologies and artificial intelligence, distributed ledger systems, industrial Internet, robotics and sensor components, etc. The development and development of modern digital technologies are based on cognitive methods and technologies.

Researchers consider the concepts of "cognitive technologies" and "artificial intelligence technologies" (AI technologies) as synonyms [Kokina, Davenport, 2017]. The term "cognitive" means "to know, to know", and "cognitive economy" is an economy based on knowledge.

In turn, cognitive methods are understood as “methods of influencing the processes of obtaining and storing knowledge” for solving complex problems and intelligent data processing”, and under cognitive technologies-methods and algorithms for achieving the goals of subjects based on data about the processes of cognition, learning, communication, information processing by humans and animals, neuroscience, self-organization theory, computer information technology, mathematical modeling of the elements of consciousness and a number of other scientific areas” [Rodzin, Titarenko, 2013, p. 65]. Cognitive technologies include a wide range of technologies for rationalization and formalization of intelligent systems for the generation and functioning of knowledge, expertise, communication and decision making [Abdikeyev, Averkin, Efremova, 2010].

A similar definition is given to intelligent technologies (hereinafter referred to as AI technologies). They are designed to implement tasks that are traditionally a person performs on the basis of memorizing experience, developing an algorithm and understanding abstract concepts and adapting to new conditions [Karelin, 2011].

AI technologies are designed for the development and operation of information systems capable of accumulating, classifying and evaluating knowledge about the surrounding world; replenish and generalize knowledge with the help of logical inference; interact with a person in a language close to natural; help him with the knowledge stored in

memory and logical means of reasoning [Ostroukh, 2015].

Cognitive procedures have evolved in the field of cognitive audit and classification of tasks according to the type of structuring (formalization) in order to substantiation of the intellectual nature of the audit activity. Most audit procedures are unstructured, containing many alternatives and solutions, which require the use of professional judgment [Commerford, 2019]. Cognitive audit procedures are planning, organization and management, quality control, evaluation and analysis, reasoning, critical appraisal of evidence based on application the principle of professional skepticism, risk assessment and internal control.

M.J. Abdolmohammadi in his study proposed a classification of audit tasks into structured (routine, formalized) and less structured in conditions of uncertainty and incompleteness of information (for example, business continuity assessment) and came to the conclusion that none from statistical models does not allow to substantiate the decisions made in audit and contribute to the implementation of a set of unstructured tasks [Abdolmohammadi, 1987].

As a result of the study, the possibilities of using digital technologies in auditing and development prospects were identified AI audit as an independent field of scientific knowledge. The main conclusions of the study are as follows.

First, an analysis of scientific research in the field of audit shows that theoretical, methodological and scientific and technical prerequisites for the transition of audit to digital technologies have developed. The practice of companies in the Big Four countries shows that there are currently available on the world market AI technologies that can modernize individual audit procedures (risk assessment, search and analysis of information on Internet sites and open data) and comprehensively create a cognitive ecosystem of audit activities.

Secondly, AI technologies, combined with methods of descriptive and predictive analysis of big data, are transforming the methodological tools of the audit, as well as expanding the range of consulting services. there are opportunities to meet the needs of customers who in the market economy, not only reliable accounting information is important, but also promising assessment of business risks, guarantee of the existence of the enterprise in the foreseeable future, assessment of the state and functioning of the information system and business processes. The transformation of theory and methodology leads to the formation of interdisciplinary areas of scientific knowledge - cognitive audit and AI audit, which are promising areas of scientific research.

Thirdly, an audit using digital technologies can improve the quality of auditors' services based on the transition

from selective to complete audit, since technology creates the ability to quickly process paper and electronic sources of information, make reconciliations and confirmations that the auditor performs manually. The focus of verification is shifting on the selection and search for risky transactions, accounting records that are considered suspicious, which a human auditor can subject even more carefully verification. AI technologies are designed to increase the degree of trust in the audit report, which in turn will improve the business reputation of the auditor. Machine intelligence can be more objective than human judgment. Fourth, digital technologies can both simplify procedures and streamline the organization of an audit, taking into account the characteristics of the client. The prevailing audit procedures should be tests of control means of automated information systems and analytical procedures, which, based on technologies of descriptive and predictive.

Analysts are able to analyze both structured and unstructured information.

Fifthly, there are risks of AI systems associated with bias, the subjectivity of the system, since there is a dependence on intelligence and beliefs. those who train robots. When creating AI systems, it is necessary to take into account that fairness, honesty and professionalism are the main characteristics that form the trust in the opinion of the auditor.

Thus, the introduction of robotic software products in audit activities is a necessary condition and factor in the development of digital economy in Uzbekistan, which should contribute both to improving the quality audit services, and increase the efficiency of audit firms.

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