Potential and Risks of Using Artificial Intelligence in the Public Sector of the Subjects of the Russian Federation

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Abstract: The article substantiates the need to introduce progressive digital technologies in various spheres of public administration as a condition for ensuring the competitiveness of the Russian economy. Artificial intelligence turns out to be a source of new digital technologies in various areas of management (for example, in the provision of public services, citizen appeals, etc.), however, it is necessary to take into account the obstacles to its implementation (digital distrust, lack of human resources, gaps in legal support). The purpose of the article is to identify the potential and risks of using artificial intelligence in the sphere of public authority of the subjects of the Russian Federation. The source base for the study is regulations, statistical data and sociological surveys demonstrating attitudes towards artificial intelligence technologies in the public sector. Achieving the purpose of the study becomes possible due to the use of a systematic approach to assessing the prospects for the spread of digital technologies in the public sector of the subjects of the Russian Federation.

1 INTRODUCTION

In the context of digital transformation, artificial intelligence becomes a tool for expanding the number of subjects with a high level of digital competence. There is a constant improvement of algorithms, the amount of funding for digital big data projects is increasing, the volume of digitized data is growing exponentially, the potential of cloud computing is expanding, etc. The inevitability of the expansion of the field of digitalization is associated with the unlimited possibilities of statistics for generalizing large databases and the ability of artificial intelligence to perform regularly repetitive actions without human intervention.

In order to assess the potential of artificial intelligence, it is necessary to determine its content. The National Strategy for the Development of Artificial Intelligence for the period until 2030 evaluates artificial intelligence as a set of technological solutions (actions) that replicate human cognitive functions. At the same time, the results must be comparable to human intellectual activity. Artificial intelligence products are evaluated in relation to human intelligence products, which gives rise to digital distrust on the part of society and the state.

Despite the limitations on the use of artificial intelligence, it is becoming an integral part of the public sector. The main reasons for the active spread of digitalization technologies are the following: firstly, the predictive potential, which allows obtaining reliable results in a short time; secondly, the possibility of solving complex social problems; thirdly, the effectiveness of using the experimental method to predict political decisions in conditions of uncertainty and risk; fourthly, the automation of simple tasks that do not require human participation in their solution (Banerjee, Pradeep Kumar, Bajpai, 2018). A fairly illustrative example of the use of artificial intelligence is the sphere of providing public services. It provides personalization of applicants, their needs, and assessment of the possibilities and risks of the technologies used.

An integral part of artificial intelligence in the public sector is the protection of personal data based on compliance with digital security ethics. The current legislation sets fairly strict limits on the use and dissemination of personal data by public

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authorities (Boyd, Wilson, 2017). For example, one of the reasons for not using the potential of the government portal "gossluzhba.ru" is the need to obtain consent for the processing of personal data from candidates for vacant positions in the civil service when passing an online test on knowledge of current legislation. Automation of the process makes it possible to reduce the costs of testing in government agencies and redirect resources to organizing a competition of documents and interviews with candidates.

The state policy of the Russian Federation in the field of using artificial intelligence in the public sector began to take shape in 2019, from the moment of signing the National Strategy for the Development of Artificial Intelligence until 2030. Authorities are officially identified as the authors of the strategy, responsible for both the introduction of digital technologies within both the management sector within their competence and the internal environment of the authority. Unlike the private sector, public authorities are more often faced with low dynamics and slowness in the process of implementing artificial intelligence. Despite certain difficulties, digitalization processes in the public sector are currently the most intensive and ensure the effectiveness of the management decision-making process.

2 MATERIALS AND METHODS

Achieving the goal of the study to assess the potential of artificial intelligence in the public sector becomes possible by solving the following tasks: analyzing the legal framework governing digitalization processes, assessing trends in the use of artificial intelligence in the public sector in the subjects of the Russian Federation, identifying the risks and prospects for the implementation and diffusion of artificial intelligence in the public sector. The solution to the set tasks is provided through the use of an institutional methodological approach that allows evaluating artificial intelligence technologies as a set of goals, objectives, directions and mechanisms for achieving public administration results. The approach directly links the tasks of digitalization and achieving the effectiveness of all technologies, including artificial intelligence.

Among the qualitative research methods used are the logical method of analysis and synthesis, as well as the method of structural and functional analysis, which provided an assessment of external and internal factors influencing the content and directions of implementation and diffusion of artificial intelligence technology. The sociological method refers to quantitative methods, allowing to identify the specifics of the implementation of the tasks of the diffusion of artificial intelligence in the practice of the subjects of the Russian Federation. The validity of the results obtained is ensured by the integrity of the methodological and source base of the study.

3 RESULTS

The use of artificial intelligence in the public sector is driven by the need to achieve effective public administration. To identify the potential of this technology, it is necessary to analyze the criteria for evaluating the effectiveness of the public sector.

Firstly, obtaining accurate results from big data processing, on the basis of which management decisions are made. In this case, the variable parameters are successfully ignored and excluded from the selection. Decisions of public authorities are regularly tested and adjusted, taking into account the identified shortcomings. This criterion is reflected in numerous state (municipal) strategies and programs that are subject to regular monitoring, control and adjustment. For example, many public authorities of the subjects of the Russian Federation tend to establish criteria for evaluating the effectiveness of individual management decisions, taking into account the position held and the official duties of a civil servant.

Secondly, the presence and degree of human control over the process of data processing by artificial intelligence and its results. In the public sector, decisions are of fundamental importance for the development of the territory, industry, and citizens, which is why the level of control is the highest. For example, in the field of public services, administrative regulations usually assume a mixed nature of receiving services – electronic or personal.

Thirdly, ensuring transparency at all stages of processing databases by artificial intelligence. This criterion seems to be one of the key criteria in

evaluating the effectiveness of management decisions, because, for example, when providing public services, it is almost impossible to ensure transparency at all stages of the process, since there is interdepartmental interaction and limited access databases are used. Providing access to databases does not mean the completeness of the calculation of the result, due to the presence of objective legal and economic reasons.

Fourthly, equal conditions for all variables and algorithms guarantee the objectivity of the results of using artificial intelligence. For example, statistical accounting of the small peoples of Russia, conducted using artificial intelligence, involves the use of uniform criteria for describing population groups. At the same time, artificial intelligence does not replace humans, but is intended to help them in making management decisions.

Fifthly, the universality of the requirements for the protection of personal data allows artificial intelligence to use various combinations of them in the process of identifying information. The anonymity of information containing personal data is provided by artificial intelligence quite effectively. Despite the possibility of reusing anonymous data, but at another stage of management decision-making, often in violation of the autonomy of the subject of personal data.

Artificial intelligence is radically transforming the public sector, giving it the ability to effectively make and implement management decisions. A large amount of data can be processed quickly and without errors using digital technologies. The influence of the human factor on the result is minimized. The quality of decisions is improved by appealing to generalized databases, trends and patterns. We should not forget about the enormous predictive (strategic) potential of artificial intelligence in the sphere of public authority.

Digital technologies create conditions for ensuring transparency of the public sector, its openness to citizens and society as a whole. E-government, which provides real-time feedback, remains a key instrument of openness. The level of trust of citizens in public authorities is determined by the degree of its openness. Artificial intelligence is becoming a source of creating a comfortable environment and increasing the level of trust among citizens – signs of digital maturity of public authorities. The use of digital technologies in the public sector also makes it possible to solve communication, administrative and educational tasks.

The use of digital technologies in the public sector ensures that citizens have access to digital services and platforms. Officials, whose responsibilities include the introduction of digital technologies into the practice of regional management, initiate the creation of new services to solve complex management tasks. For example, one of the most effective digital technologies is the Internet of Things, which forms the basis of the Smart City tool.

The use of artificial intelligence, despite its full potential in the public sector, should not upset the balance of interests of citizens and public interest. To assess the limitations of artificial intelligence, it is necessary to conduct an analysis of possible risks (Hacker, 2018). 1. Dependence on subjective assessments (opinions) of artificial intelligence developers. The result is the persistence of inequality and discrimination in society. This risk is most critical in a state governed by the rule of law. Unlike the human mind, artificial intelligence operates according to an algorithm, so the subjectivity of the results becomes systemic. 2. The risk of depriving a person of autonomy, the inability to determine who is responsible for the difficulties that arise in the process of implementing a management decision. The rights of the affected subject are violated by the impossibility of holding the perpetrators accountable. 3. The risk of unjustified (unexplained) results from the point of view of human intelligence. The result is doubts about the objectivity of the results obtained, especially if the data conceal the facts of inequality (discrimination). 4. Violation of personal space, invasion of privacy. The amount of information to be processed by artificial intelligence makes it impossible to obtain the consent of the personal data subject. People's private lives are being affected by artificial intelligence, depriving them of the ability to control their own lives. 5. The risk of isolation of a person from society. The result is an inability to build relationships based on mutual understanding and trust. The integration of society is possible only if the risk of isolation is eliminated. 6. The risk of obtaining unreliable results could undermine public trust in artificial intelligence. Carelessness in the design and implementation of processes can make this risk fatal for the public sector.

To analyze the risks and potential of artificial intelligence in the public sector, we used the results of a sociological survey of the Center for Strategic Research conducted from February 10 to 24, 2022 in 46 regions of the Russian Federation. The representativeness of the sample allows us to note the following trends in the use of artificial intelligence in the public sector.

Firstly, the solution to current territorial management problems is not linked to the prospects of artificial intelligence expansion. Even in the perspective of the coming decades, technology is not considered effective for achieving the goals of management decisions. Some favorable opportunities were noted only in three sectors of the economy: the social sphere, industry and the management activities of public authorities. The reason for choosing these sectors is the most intensive interaction of authorities with the population, which significantly complicates management tasks. Artificial intelligence is evaluated only as an auxiliary tool in human activity. This conclusion is confirmed by the confidence that the transition to a proactive mode of providing public services will become the key to the sustainability of the public sector.

Secondly, the sectoral nature of the use of artificial intelligence makes it possible to use its capabilities only within one industry and one technology that has proven its effectiveness. Taking into account the regional peculiarities of socio-economic development, various examples of successful practices of using artificial intelligence are formed. Generalization of regional practices may become a condition for their application in other subjects of the Russian Federation.

Thirdly, there is a tendency to use artificial intelligence technology in the social sphere, which is experiencing the greatest financial difficulties. For example, the healthcare sector (primarily medical services). In the process of providing medical services, as a rule, there is a need to algorithmize the entire process through the use of artificial intelligence. The social sphere is becoming an object of application of digital technologies also due to the high degree of uncertainty and complexity of the databases being processed.

Fourthly, the traditional stages of implementing management decisions: monitoring, control and audit, which require the processing of big data, are becoming areas of use of artificial intelligence. The latter turns out to be in demand within the framework of project management, which forms the basis of territorial planning in the Russian Federation.

Fifthly, the potential risk of artificial intelligence to the personal safety of citizens is noted. For example, in connection with the need to compensate for moral damages in connection with the dissemination of restricted information. But for the subjects, economic risks are the most pressing, as they lead to an increase in the cost of the project.

Sixthly, the factors limiting artificial intelligence in the public sector are: limited financial resources, digital incompetence and lack of infrastructure. We have identified similar risks previously. It can be stated that regional practices demonstrate identical trends that limit the realization of the potential of artificial intelligence.

Seventhly, minimizing risks becomes possible only by increasing the trust of authorities and citizens in digital technologies. The level of trust will increase only if the regulatory framework is improved, recommendations are issued and public servants undergo internships in the largest companies ready to demonstrate successful experience in using artificial intelligence.

Eighthly, the creation of a federal digital platform containing software solutions based on artificial intelligence inspires a high level of trust. At the same time, it is important that these solutions can be integrated into specific sectors of the socio-economic development of the region. To achieve this goal, integrated Competence Centers should be created on the basis of public-private partnership, including representatives of public authorities and IT companies in the region.

The dependence of the use of artificial intelligence in the regions on the availability of human resources with a high level of digital competencies is quite obvious. The level of salary expectations of specialists is much higher than their qualification level, which leads to an outflow of personnel to the commercial sector. Regional practices are dependent on the federal IT platform because they are limited in resources and innovative digital technologies. Meanwhile, artificial intelligence technologies demonstrate their high efficiency in the provision of public services, for example, in the format of a virtual assistant. Despite

the high cost of technologies, the willingness of public authorities to use them in the social sphere reaches 25%. For comparison, in the commercial sector it is up to 97%. However, the most productive area of application of digital technologies is the area of interaction between public authorities and consumers of public services, and not the sphere of their receipt ("end service").

The level of trust of citizens and public authorities in artificial intelligence remains low (no more than 34%). The reason lies in the limited number of successful examples of its use in the public sector and poor communication with the commercial IT sector. Technological problems of using artificial intelligence, in particular, the power of computing infrastructure, are recognized by all regional entities.

The results of the analysis of the sociological survey data indicate the presence of mutual interest (dialogue platform) of public authorities and the public in the use of artificial intelligence in the implementation of industry projects. Regional practices indicate dependence on federal artificial intelligence platforms that demonstrate the technological and economic potential of digital technologies.

The public sector has shown a high degree of interest in using artificial intelligence in recent decades. The transition to program-target and project management has expanded the range of digital technologies used in the process of achieving results, from robots to artificial intelligence. The practice of the subjects of the Russian Federation demonstrates a high level of risks hindering the introduction of artificial intelligence technologies: limited financial resources, underdeveloped infrastructure, low level of digital literacy and gaps in the regulatory framework. The elimination of risks becomes possible only with the participation of the federal center.

4 DISCUSSION

The problems of artificial intelligence as a digital technology in the field of public sector are in the range of interests of numerous researchers. Theoretical approaches to determining the potential of this technology can be divided according to the criterion: priority of opportunities or threats. One of the supporters of the introduction of artificial intelligence at all stages of making and implementing management decisions is T.M. Kosovskaya (Kosovskaya, Petrov, D.A) such a project in the public sector may be the conclusion of a public-private partnership agreement. Another group of researchers draws attention to social crises as a result of the introduction of artificial intelligence (Bure, Karelin, Polyakova, 2016). Unemployment and social instability turn out to be an integral part of the use of artificial intelligence technology. The prevention of these negative consequences requires a broad discussion with the participation of all social groups. Supporting the position of opponents of the large-scale introduction of artificial intelligence into the public sector, A.M. Gortsev emphasizes the moral and ethical problems caused by encroachment on personal autonomy (Gorcev, Bocharova, 2022).

Despite the existence of two diametrically opposed approaches to assessing the prospects for the spread of artificial intelligence technology in the public sphere, the vast majority of authors adhere to related positions. For example, A.A. Sidorov insists that in conditions of high uncertainty in the public sector, it is artificial intelligence that is called upon to choose the optimal vector of public administration strategy (Sidorov, Senchenko, Tarasenko, 2020). It is the strategic vector of technology that turns out to be most in demand in the works of Russian authors (V.V. Moskvichev, V.P. Potapov, etc.) (Moskvichev, Nicheporchuk, Potapov, Tasejko, 2021). The task of public authorities is to minimize the risks of introducing artificial intelligence, the Internet of Things and big data.

The legal nature of artificial intelligence is addressed in the works of A.M. Lepihin (Lepihin, Mahutov, SHokin, YUrchenko, 2020). Drawing attention to the need to tighten legal liability measures for digital technology developers, the author establishes the priority of human rights to personal information over achieving the effectiveness of public decisions. The legal conflicts of using artificial intelligence are emphasized by almost all experts. This problem is especially acute at the stage of data perception and self-learning of a complex autonomous cybernetic system. Attention is drawn to the legal capacity of a special electronic person – artificial intelligence (Suchkov, 2022). This status is not fixed in the current Russian legislation and

requires taking into account the foreign practice of legal regulation of digital entities.

5 CONCLUSION

Digitalization processes cover various areas of the public sector, requiring an assessment of the potential of artificial intelligence, taking into account the limitations inherent in the latter. Successful application of technologies in the commercial sector requires their adaptation to the needs of the state and society. The strategic task of increasing the efficiency of public administration requires the use of key artificial intelligence technologies. The digital state must stop being document centric and move towards big data analysis. In particular, in the field of public services, quantitative indicators should become the responsibility of artificial intelligence, and solving the strategic task of improving the quality of public services should become a priority for public authorities and their officials.

Artificial intelligence technologies are becoming no less important for ensuring the digital security of the state. By eliminating errors in information systems, artificial intelligence reduces the role of a vulnerable human factor in the management decision-making process. The increase in the use of artificial intelligence technologies in industries such as transport, education, healthcare, mining, etc. requires an expansion of the range of technologies used to achieve efficiency indicators.

The accumulated practice of using artificial intelligence has sparked a discussion about the social, legal, and ethical consequences of its use in the public sector. In the coming decades, artificial intelligence will not be able to replace the human mind, solving narrow-profile tasks defined by man. This fundamental contradiction leads to the inability of artificial intelligence to resist manipulation by its creators, which in turn leads to the unreliability of large databases.

Financial risks also appear to be the main reason for refusing to launch artificial intelligence programs. The budgetary possibilities of state programs (strategies) do not provide for the costs of upgrading artificial intelligence technologies, resulting in the unwillingness of public authorities to put the latter into practice.

The low level of digital competencies of specialists and citizens leads to a personnel vacuum in the public sector. At the same time, digital competencies require deepening their specialization within a certain branch of public authority.

Legal conflicts of artificial intelligence management form the prerequisites for the development of special norms controlling its socio-economic impact on society and the state. The practice of international law has a special influence on the resolution of conflicts. The processes of globalization directly affect the formation of national artificial intelligence systems based on differences in the legal systems of individual states.

Finally, the risk of holding an inappropriate subject accountable also appears to be a consequence of the legal uncertainty of the accountability of artificial intelligence technologies. The ethical aspect of accountability is determined by the ability of the human mind to foresee the consequences of using digital technologies. Moral and ethical evaluation criteria turn out to be problematic, since they contradict the nature of artificial intelligence, which does not appeal to categories of the human mind. The problem of the ethical nature of digital technologies goes beyond the development of rules of behavior and covers the systemic issue of the compatibility of artificial technologies and human values. If artificial intelligence goes beyond the task of simulating human behavior, it will become vulnerable in terms of ethical norms and values.

Artificial intelligence technologies are based on the rational principle of reproducing the management decision-making process. However, the algorithm of the management decision may be erroneous due to incorrect databases or initial errors of the creator of the digital technology. Emotional and personal traits of human behavior affect the rational nature of the technologies created, distorting the results obtained, and at the same time, raising doubts about their right to establish rules of ethical behavior of human society.

Realizing the potential of artificial intelligence in the public sector lies in improving the efficiency criteria for the provision of electronic public services, simplifying the procedure for registering the results of intellectual activity and expanding the list of subjects of intellectual activity. This digital technology creates conditions for GDP growth and

the inclusion of the Russian economy among the world's leading economies.

Achievements in the field of artificial intelligence demonstrate their enormous potential in the public sector. The presence of risks does not detract from the predictive potential of these technologies, but only if they are combined with the traditional ethical values of the era of pre-digital law. The complexity of the tasks of implementing artificial intelligence in the public sector forces people to use various digital technologies when making management decisions.

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