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Global governance of artificial intelligence and its reflection at the national level (some basic legal and technological aspects)

The purpose of the article is to conduct a scientific and expert analysis of the current legal and technological aspects of global governance of artificial intelligence and its reflection at the national level using the case of Kazakhstan. The research question is to analyze global trends in the field of artificial intelligence, and to identify opportunities for Kazakhstan to participate in the processes of global governance of artificial intelligence and international cooperation in this area, as well as in the formation of policies, rules and specific measures for the development of artificial intelligence in our country. The article used qualitative research methods, as well as a literature review, synthesis, systematic review, including an analysis of international documents and current practice in the field of artificial intelligence management. The results of the study consist in the analysis and systematization of knowledge of the Global Digital Compact, in the definition of governance entities in the global digital space. The issues of reflection at the national level of global processes of artificial intelligence governance in Kazakhstan are analyzed. The issues of the artificial intelligence ecosystem, conceptual approaches to the development of national artificial intelligence are considered. The authors' main conclusions are that in its policy on the development of artificial intelligence, Kazakhstan needs to consider both global trends and the emerging international legal framework for regulating the sphere of artificial intelligence in order to advance national interests in this area.

Keywords: global governance of artificial intelligence; law and artificial intelligence; technological aspects of artificial intelligence; artificial intelligence in Kazakhstan.

Introduction

Artificial intelligence (AI) technologies are currently concentrated in the hands of a few IT giants and a small number of countries (mainly the USA and China). Most countries have serious restrictions in accessing AI tools. Events related to both the rivalry of major powers and large companies in the field of high technology and AI, and the desire of the international community to regulate AI governance issues at the political and legal level are currently taking place at a high speed at the global and international levels. Thus, following the results of the Future Summit, on September 22-23, 2024, the Pact for the Future was adopted [1]. All these processes and events are reflected to a certain extent at the regional and country levels, influencing developments in our Republic. In this regard, the purpose of the study is to review global AI governance processes and to analyze the general issues of their reflection at the national level in Kazakhstan. The objectives of the work were to study the issue of governance entities in the global digital space; highlighting the issues of the contradictory nature of the principle of exchanging Big Data and AI with confidentiality; as well as an analysis of current legal and technological aspects of reflecting global AI management processes at the national level in our country. The issues we are considering have not previously been the subject of special research in the legal science of Kazakhstan.

Methods and Materials

Qualitative research was aimed at analyzing and understanding the underlying causes of global rivalry between leading world states and large technology companies in the field of new technologies, as well as analyzing the processes of international cooperation and the emerging international legal framework in this area. This method contributed to the presentation of detailed information about the subject of the study, allowed the collection of information in a free form, based on the understanding, explanation and interpretation of empirical data. The methods of literature review, synthesis, systematic review, including analysis of international documents and current practice allowed us to analyze global trends in the field of AI and identify

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opportunities for Kazakhstan to participate in the processes of global governance of AI and international cooperation in this area. These methods together allow us to realize the purpose of the article and achieve results that can be used in the formation of policies, rules and specific measures for the development of AI in our country. The scientific basis of the article was the publication of F. Kukeyeva on theoretical and methodological approaches to the study of AI [2], other materials used: Pact for the Future (2024), Global Digital Compact (2024), The year we decide the internet's future (2025), speeches of the President of the Republic of Kazakhstan on the topic of AI (2024-2025), M. Anisimov Global Digital Compact and reflection of global technological processes in Kazakhstan (2024), Concept of development of artificial intelligence (in Kazakhstan) for 2024–2029, Draft Bill on artificial intelligence (initiated by members of Parliament), 2025 and other materials.

Results

- The Global Digital Compact has clearly resolved the issue of the rights of actor to participate in decision-making, in the development of Internet governance rules, the development of the digital space and the governance of AI by enshrining a multilateral approach in this area. Whether such an approach will be applied in Kazakhstan will be determined by politicians and legislators.

- 2025 will be a turning point for the future of Internet governance due to the adoption of the Global Digital Compact by global trends: states are facing increasing pressure to regulate the digital ecosystem, and state-controlled Internet models are changing the digital landscape, which directly affects the development of AI.

- The enshrinement in the Global Digital Compact of principles that are in some sense contradictory to each other: data protection and international cooperation in data exchange, in our view, not only the tension between state interests and the corporate sector, but also the broader competition between the concept of public goods for humanity and the right to profit in private enterprise. Apparently, the developers of the Treaty tried to consider the interests of both the first and second groups of entities, in addition, they normatively enshrined new concepts reflecting common values, for example, as “Digital public goods”.

- The guidelines in Kazakhstan's AI policy consist of creating a solid foundation for the promotion of AI, the emphasis is on the formation of an institutional framework, infrastructure and the development of human capital, and Kazakhstan strives to become an active participant in the global AI ecosystem.

- Regarding the AI ecosystem in Kazakhstan, the issue of the powers of entities to participate in decision-making, participation in the development of Internet governance rules, the development of digital space and AI governance, in our opinion, has not yet received a conceptual solution. It seems that the draft Law on AI could enshrine the solution to the “multilateral approach” both in Internet governance and in AI governance.

- There are at least three different approaches to creating a national or sovereign AI. The first is represented by sovereign infrastructure, which requires very large investments; the second is our own language model, that is, the algorithms we develop are uniquely designed and differ significantly from existing approaches; and the third approach is any standard model that is freely available on the market, but trained on our own data set. In our opinion, these approaches should be studied in more detail and adopted as a basis for forming AI policy in Kazakhstan, and future rules and specific measures in this area should be developed considering the conceptual decision of politicians to choose one of the specified approaches to the development of national AI.

- Issues of Kazakhstan's information sovereignty in terms of direct access to the Internet should be resolved, reducing dependence on the Russian Internet infrastructure by laying fiber-optic lines (cables) for cross-border data transmission, which directly affects the development of AI in the country.

Most of the above research results are completely new, since they have not been tested in publicly available publications on the topic under consideration and have not previously been presented to the legal and IT communities and the scientific community. Some results may be relatively new, as they could indirectly be the subject of scientific or expert discussion in other works. These research results fully correspond to the stated goals and objectives of the article, as evidenced by the logic of presentation, the analysis and the structure of the publication. The article is based on a research methodology of an interdisciplinary nature and specially developed by prof. F. Kukeyeva, for conducting research work on the project “Global processes and international cooperation in the field of using artificial intelligence technologies: opportunities for Kazakhstan” (2023–2025).

Discussion

1. Global Digital Compact. One of the important events worth paying attention to is the Future Summit, organized under the auspices of the UN, held in New York on September 22 and 23, 2024. As a result, a document was adopted — the Pact for the Future [1]. As the first annex to the main document of the Future Summit, a document called the Global Digital Compact [3] was adopted. The Pact for the Future was adopted as a resolution of the UN General Assembly, is an act of an international organization and is not an international treaty. Perhaps this was done to ensure immediate “inclusive participation of all states,” wanting to exclude lengthy procedures and difficulties of ratification by states in the event that this document had the status of an international treaty. At the same time, resolutions of international organizations, in particular the UN, are known to have significant moral and political weight in the international normative system, and in this case represent a certain system of mutual political obligations that the participants protect and will try to follow. The Global Digital Compact is quite broad, and a certain part of it is dedicated to AI.

2. The question of governance actors in the global digital space. However, in the context of this article, in our opinion, it would be important to pay attention not so much to issues directly related to AI, but to the principles that are enshrined in the document. Thus, here the “main intrigue” of this document and the main “primary obstacle” of heated discussions that were conducted for almost three years within the framework of the draft of this “Compact” received its solution and normative consolidation. The text of the document changed several times and experts and regulators carefully examined it from various perspectives over an extended period trying to achieve such a formulation that would be acceptable for everyone. However, now a fairly large number of states have not expressed their intention to join it for various reasons. The “main intrigue” before the adoption of the “Global Digital Compact” was the question of powers — who has the right to participate in decision-making, in the development of rules for Internet governance, the development of digital space and AI governance?

In the first version of the “Compact,” which appeared three years ago, the norm regulating this issue was set out with an emphasis on state-oriented principles. At that time, the corporate and IT community explained this by the fact that the document was developed at the UN site, and that the organization’s status both as an international and intergovernmental entity was reflected in the nature of the document. In their opinion, the principles of the UN and its agencies (such as the International Telecommunication Union and other Internet-related agencies) are structured in such a way that the main stakeholders, the main decision-making entities, are the governments of national states. All other stakeholders related to technological processes most often have only observer status, at best an advisory vote in many procedures and processes in the development of regulatory rules and similar documents.

The key principle-norm that appeared in the final version of the document is the norm on equal participation of all stakeholders, which fundamentally changes the approach to AI governance. In the literature, it can be described as a “multilateral approach,” and the words associated with the term “multilateralism” are used in the “Pact” for a reason. For example: “7. Today, we pledge to make a new beginning for multilateralism. The actions envisaged by this Pact are intended to ensure that the United Nations and other key multilateral institutions can build a better future for people and the planet, enabling us to deliver on our existing commitments while responding to new and emerging challenges and opportunities” [1]. The “Global Digital Compact” then provides a certain decoding of the “multilateral approach” in the form of the following provisions: “6. We, as governments, will work in collaboration and partnership with the private sector, civil society, international organizations, the technical and scientific communities and all other stakeholders, within their respective roles and responsibilities, to realize the digital future we aspire to” [3]. In political and legal terms, this may mean that the “Compact” recognizes not only the right of states (governments) to participate in decision-making processes, to be the main actors of rule-making, development and approval of rules, but also the right of all other types of communities and other interested parties and stakeholders to take an active part in this. Thus, we can state that in the conflict of interests of public entities (governments) and the corporate community, including the IT community, regarding key issues such as Internet governance, the development of the digital space, and AI governance, the corporate sector ultimately succeeded in advancing its interests. Thus, the Global Digital Compact has clearly resolved the issue of the entities’ rights to participate in decision-making, in the development of Internet governance rules, development of the digital space and AI governance by enshrining a multilateral approach in this area.

2.1 Internet Governance 2025: Between Openness and Control. In 2024, international discussions on Internet governance began and will be continued and resolved in 2025. The agenda includes the transition from

a multi-stakeholder model where states (governments), the corporate sector (business), civil society and the IT community share responsibilities to a model dominated by states (governments). Discussions include topics such as an open Internet, connectivity, AI, digital infrastructure, human rights and the Sustainable Development Goals. Central to these debates is the critical question of whether the multi-stakeholder model that has protected the open Internet can survive. 2025 will be a turning point for the future of the Internet, due to two global trends and the adoption of the Global Digital Compact. First, states are facing increasing pressure to regulate the digital ecosystem. Second, state-controlled Internet models (e.g., China) are changing the digital landscape. China's "new IP" (Internet Protocol) proposals to international standards bodies such as the International Organization for Standardization (ISO) and the International Telecommunication Union (ITU) would, if implemented, allow authorities to control every device connected to the network, citing "national security" and "digital sovereignty" to justify restrictions on openness and interoperability. All of these issues will also be addressed at the upcoming World Summit on the Information Society (WSIS) in 2025, which is expected to assess the implementation and progress of the 2005 WSIS outcomes, including the Internet Governance Forum (IGF). The IGF's mandate was defined in the outcome document of the Tunis Summit. Internet governance thus stands at a crossroads between openness and control [4].

2.2 The international IT community declares its interests. The arguments of the international scientific and technical (mainly IT) community on this issue were as follows. Thus, the technical community in the first versions of the Treaty was not singled out as a separate group, but in the final versions of the "Compact" it was singled out as a separate group of interested parties and assigned them an independent status. For them, this seems to be a very big achievement, because in fact this is granting engineers (developers) of new technologies that have the right to participate in decision-making. In the current conditions in the world in the IT industry, at the present time the state no longer holds a position as a major player. All the most advanced and most significant models that are now widely used and are at the forefront of developments in this field of knowledge have been developed by private corporations. This is the well-known OpenAI, Google and a large number of other companies that are actively working on this, that is, the levers of technology control are already in private hands, accordingly, it would be unwise not to include in the process of discussion and decision-making the business community, which is actually engaged in this (in their opinion). The academic (scientific and technical) community also does a certain amount of the main work here, their arguments on the issue under consideration are as follows. The peculiarities of AI, as is known, are that in addition to some tools, some algorithms that process data and issue some generated information or work on recognition — the process of their training is of great importance. Training is carried out on some array of data, previously collected, marked up, and so on. The principles of collecting this big data, the principles of marking up and the principles of training are also developed in many respects by the academic community in laboratories, scientific institutes, etc. Accordingly, their participation also cannot be reduced solely to the observation process or only to the advisory status [5]. In our view, the academic community is an equal and essential participant in the technological process and should possess decision-making rights. It is likely that future research will increasingly address the interests of civil society and the scientific community in the realm of AI. In this regard, it is worth noting that the well-known Kazakhstani human rights advocate highlighted the lack of representation of citizens' interests in AI governance and development during the Internet Governance Forum held in Almaty, Kazakhstan, on October 16, 2024.

3. Are data protection principles contrary to international cooperation? The next important points concerning AI specifically include two principles enshrined in the Global Digital Compact. The first: "i) Safe, secure and trustworthy emerging technologies, including artificial intelligence, provide new opportunities to accelerate development. Our cooperation will promote a responsible, accountable, transparent and people-centered approach to the life cycle of digital and emerging technologies..." (paragraph 8) [3]. Such development of AI in compliance with the principles of personal data protection and compliance with the obligation to be extremely careful in matters of cross-border data transfer is one of the key issues in the modern world. A large number of different initiatives are now aimed at data protection, which is developing extremely unevenly in the world: some regions are doing this at a somewhat faster pace, others are approaching this a little late, but in general, everyone is moving in this direction. Thus, all those principles that, for example, are declared in the regulatory acts of the European Union (such as GDPR) are some models for national legislations and contain requirements for storing personal data of citizens on the territory home country. Data protection standards and obligations will have a key influence on plans for the development of AI. On the other technical side, the process of AI development includes collecting data, marking it up and, in simple terms, using it to train models. The phrase that data is the "new oil" has long ceased to be just a statement

and the meaning of what was said is already receiving large-scale implementation. The value of AI, the economic profit and practical benefit that can be obtained from it depend entirely on the purity, volume and quality of the labeling of the data on which these models will be trained. The second principle: “(h) Digital systems that enable communication and exchange are critical catalysts for development...” (paragraph 8 of the Principles). This principle has been further developed as follows: “41. We recognize that common data standards and interoperable data exchange can improve the availability and sharing of data and help bridge data divides” (Data Exchange and Standards) [3].

The first principle declares the exchange of data. It proposes to give researchers, developers of AI models large amount of data that is collected by social networks, because it is the most complete and most frequently updated insights into human behavior. According to representatives of the IT community, it is difficult to imagine how exactly these two principles will be combined, because they somewhat contradict each other: one is about sharing big data, the other is about the need to be careful about privacy and digital sovereignty. Nevertheless, it is assumed that participants will be very responsible in exchanging data and do so exactly to the extent that does not violate, first of all, the norms of national legislation of the countries to which this data belongs, and, secondly, does not violate international principles declared in global documents (for example, like GDPR). In our opinion, this is not only a confrontation between the interests of public entities (state, government) and private actors (corporate sector), but also a competition of concepts, ideas of public goods of humanity and the right to profit in private enterprise. The authors of the “Compact” tried to consider the interests of both the first and second groups of entities, as well as to normatively enshrine new concepts that reflect common values, for example, as “Digital public goods” (paragraph 14). At the same time, its definition contains some response to the concerns of the corporate sector about how data exchange is possible without violating the rights and without causing harm to other persons.

Other technical terms and phrases that, through their use in the text of the “Treaty” (in legal writing), may enter the research vocabulary of the social sciences (including political science, law and economics), in our opinion, include: “digital public infrastructure”; “digital divide”; “digital literacy, skills and potential”; “accumulation of digital knowledge”; “digital economy”; “digital entrepreneurship”; “supply chains of global digital products”; “digital space”; “digital and emerging technologies”; “Internet fragmentation”; “online environment”; “online space”; “information integrity”; “information ecosystems”; “data management systems”; “interoperability of approaches to data management”; “data and metadata standards”; “open and accessible data systems”; “cross-border data flows”; “artificial intelligence management systems”; “international regulation of artificial intelligence”; “artificial intelligence standards”, etc. [3]

4. Reflection of global AI governance processes at the national level (using Kazakhstan as an example). On January 15, 2025, the President of the Republic of Kazakhstan took part in a meeting with experts on AI development. Speaking to the participants of the event, the head of state noted that AI is one of the key driving forces of modern progress and is capable of radically changing the economy. He emphasized that Kazakhstan is taking significant steps to create a solid foundation for the promotion of AI, with an emphasis on the formation of an institutional framework, infrastructure and the development of human capital. Also, according to K.Zh. Tokayev, Kazakhstan strives to become an active participant in the global AI ecosystem, and called on the participants of the event to cooperate in various fields [6]. According to the Concept for the Development of Artificial Intelligence for 2024–2029, the state’s approaches to the development of AI will consist of focusing on the following areas: high-quality data, modern infrastructure, human capital, research and development work, legal regulation and the implementation of acceleration programs [7]. Currently, the Majlis of the Parliament of the Republic of Kazakhstan is considering a draft law on AI [8] and an accompanying bill [9]. The Bill on AI is supposed to regulate public relations in the field of AI that arise in the territory of Kazakhstan between government agencies, individuals and legal entities, as well as to determine the legal and organizational basis for ensuring transparency, security and state support for the development of AI.

4.1 AI ecosystem. Officials from relevant authorities advocate for a multilateral approach to Internet governance. However, the corporate and IT sector interpret this to mean that while the government remains a significant and decisive player in these matters, it will no longer be the sole actor in shaping digital policies. For them, this is a key issue. They see this as a positive confirmation when the heads of the relevant government agencies speak about the need to create an AI ecosystem. It is implied that the ecosystem involves the interaction of heterogeneous participants in this area. By analogy with the natural ecosystem, which involves the interaction of plants, insects and everything else that form a kind of complementary chain, according to the corporate and IT sector, the AI ecosystem involves the presence of not only government actors, but also

all those who are somehow connected with the development of training using AI. The ecosystem also assumes their functional interaction according to some regulatory instruments that will be developed in the future. Such instruments can be developed either by the government itself or through dialogue with interested parties and the public. In our opinion, the draft Law on AI should normatively reflect and conceptually resolve the issue of a “multilateral approach” both in Internet governance and in the field of AI.

4.2 Three approaches to national AI. The idea of creating a national AI may have different understandings, in particular among government agencies and the corporate sector, and raise many questions, primarily due to the presence of different approaches to this issue. In this regard, it is necessary to highlight at least three approaches from the position of IT engineers to the creation of the so-called national or sovereign AI. The first approach is a sovereign infrastructure, which implies the presence of, for example, a large number of data centers in which the AI is trained. The second approach is its own language model, in fact, a diffuse model. That is, these are the algorithms that are being developed and which differ from any others, therefore, in fact, they can remain national, sovereign or independent. And the third approach is any other, for example, a standard model from those that are now available on the market in the public domain in Open Source, but trained on its own data corpus. These are its own data, which, for example, concern some specific industries of Kazakhstan, created in its own way, marked up, related to issues important for the country. And in this case, it turns out to be such a customization of the general model. Created on the basis of any model (Chat GPT, DeepSeek, Qwen 2.5-Max, etc.), but already much more focused on solving problems directly related to Kazakhstan and those generative tasks that are set by government agencies and citizens of Kazakhstan. In short, these are three quite different approaches and when we talk about national AI, it is always important to distinguish which of these is implied exactly. This is also important because the labor costs and investments for different approaches are completely incomparable.

The level of investment in infrastructure in countries around the world is estimated at tens of billions of US dollars, for example, these are news reports on the construction of data centers. Thus, Microsoft plans to invest about 80 billion US dollars in 2025 in the creation of data centers for the development of AI and cloud applications around the world. Most of the costs of deploying data centers will go to the purchase of high-performance accelerators, primarily NVIDIA, as well as infrastructure equipment [10]. These are also news reports on investments in AI infrastructure from Open AI [11], Elon Musk’s investments in chips, data centers [12], etc. Deep Seek’s breakthrough has become a catalyst for the AI arms race among Chinese Internet giants. Companies such as Alibaba, Tencent, Kuaishou, Baidu and Byte Dance are now doubling their investments in AI, realizing the potential of AI to transform their businesses and maintain global competitiveness [13]. That is, these are very large expenses that not all countries can afford.

At the same time, for example, developing a model is an order of magnitude cheaper, and training a model on an existing data set is an order of magnitude cheaper, and accordingly, based on this, this should inform a key strategic direction for AI development within the country. Here it is necessary to make a real assessment of your capabilities and understand how much can be implemented, how possible it is to operate with such a type and volume of investments, expertise and time labor costs that are required to implement the three specified approaches to AI development. These approaches are the basis for a certain regulatory environment, which will be further developed at the regional and country levels, since international regulation has the so-called cascade principle. In our opinion, these approaches should be studied more deeply and adopted as a basis for forming policy in the field of AI in Kazakhstan, and future rules and specific measures in this area should be developed considering the conceptual decision of the government to choose one of the specified approaches to the development of national AI.

4.3 Internet and AI. Based on the Internet, AI can generate and collect large amounts of data from social networks, sensors, and online platforms. For AI models, the Internet serves as a training ground. Cloud computing for AI applications is available via the Internet. Due to the lack of direct access to the sea, Kazakhstan’s data flows pass through the territory of the Russian Federation, which puts the Internet infrastructure in a vulnerable position. The sea data routes we use belong to the Russian company Rostelecom. Kazakhstan is a transit country that receives about 90–95 % of Internet traffic from Russia and then transmits this Internet traffic to Central Asian countries. There are at least 4 connection points on the borders of Russia and Kazakhstan. In this regard, questions of information sovereignty arise, directly affecting the development of AI in the country. Kazakhstan needs projects that reduce dependence on the Russian Internet infrastructure. In the Address of the President of the Republic of Kazakhstan to the people of 2024, it was planned to complete the laying of a fiber-optic communication line across the Caspian Sea by 2025. According to the President of the Republic of Kazakhstan, this is important for the country in terms of creating a digital infrastructure as-

sociated with international corridors and cross-border data flows. However, the implementation of this project has been discussed since 2008, in 2009, the resolution on the project was supported by 30 countries of the world at the plenary session of the UN General Assembly. The role of the Internet for the development of AI is difficult to overestimate, given that not all services localize their servers in Kazakhstan. Owing to the Internet, people in Kazakhstan can use foreign services (for example, American, European and Chinese chatbots). There are provisions in the legislation of the Republic of Kazakhstan that may not quite correspond to the development of AI, for example, provisions on data localization. According to the requirements of this provision, if an AI service wants to legally operate in Kazakhstan, it must rent servers locally and process all data that comes from Kazakhstani users only in the territory of Kazakhstan. Otherwise, it should expect blocking of access to this service. Thus, Article 12 of the Law on Personal Data and their Protection requires localization of personal data in Kazakhstan. If any service processes user data (for example, Chat GPT), then localization issues are also applicable to this kind of service.

Among other issues directly affecting the development of AI in Kazakhstan, several key challenges should be noted: a shortage of specific chips due to restrictions imposed by the U.S. export license on NVIDIA (according to senior data analyst at ISSAI at Nazarbayev University); a lack of computing power necessary for AI development (as stated by head of the data processing department at 7GENERATION); and the reluctance of many companies to begin implementing AI technologies without clear legal regulations (as highlighted by a member of the Parliament of the Republic of Kazakhstan) [14].

Conclusions

Global processes in the field of AI governance, international competition between states and companies in the development of AI technologies are the main factors that have a decisive influence on the emerging policies of states in the field of AI, including Kazakhstan. The conceptual provisions of the Global Digital Compact, establishing the framework for global policy and international regulatory framework, should be reflected in Kazakhstan's national policy in the field of AI and the legislative acts planned for adoption, in particular, in the Bill on AI and the Digital Code of the Republic of Kazakhstan. Continuous analysis of global processes in the development of AI in the world until 2030 and beyond should contribute to an adequate assessment of our capabilities and risks in promoting national interests and, in general, shape our understanding of the place and role of the country in the global AI ecosystem and the global digital space.

The Global Digital Compact enshrines the principle of international cooperation in data exchange, which is a manifestation of the concept of public goods for humanity. The Global Digital Compact also introduces new technical terms and concepts. Research is needed on their inclusion in the terminology of social sciences. For example, such a new concept as "Digital public goods" has received normative consolidation. Kazakhstani politicians and legislators must resolve the issue of the "multilateral approach" in AI governance. At the same time, given that the Global Digital Compact has clearly resolved the issue of the rights of actors to participate in decision-making, the development of Internet governance rules, the development of digital space, and AI governance. The draft Bill of Kazakhstan on AI should receive its conceptual solution and consolidation of the decision on the "multilateral approach" both in Internet governance and in AI governance. The existing three different approaches to the creation of national AI should be studied in more detail so that Kazakhstani politicians can choose. One of the approaches should be taken as a basis for the formation of AI policy in Kazakhstan. Future rules and specific measures in this area should be developed considering the conceptual decision of politicians to choose one of the specified approaches to the development of national AI. Kazakhstan needs to decide on the laying of a fiber-optic line for cross-border data transmission, directly affecting the development of AI in the country and the information sovereignty of the country.

The practical value of the study is that the article serves as an expert opinion for politicians, decision-makers, and legislators in solving the problems of AI governance in Kazakhstan. In particular, in choosing one of the approaches to the development of national AI, in choosing or rejecting the "multilateral approach" in the field of AI and Internet governance, in securing conceptual norms in the Bill of Kazakhstan on AI, and others. The scientific value of the article is in the analysis of some of the main provisions of the Global Digital Compact, in the review of global trends in AI governance, the emerging international legal framework for regulating AI and the principles of cooperation between states in this area.

The results of the article can be applied in the scientific research, teaching, analytical and legislative processes of Kazakhstan. They can be useful for government agencies, the corporate sector and other stakeholders. The article can serve as bibliographic material for future research on this topic for scientists, practitioners and students.

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References

- 1 Outcome document: Pact for the Future. UN General Assembly Resolution, September 22, 2024. — [Electronic resource]. — Access mode: <https://www.un.org/en/summit-of-the-future>
- 2 Kukeyeva F. Theoretical and Methodological Approaches to studying Artificial Intelligence in the Context of International Relations and International Law / F. Kukeyeva // Journal of Central Asian Studies. — 2024. — Vol. 1. — No. 93. — P. 4–21.
- 3 Global Digital Compact / SUMMIT OF THE FUTURE OUTCOME DOCUMENTS, September 2024. — [Electronic resource]. — Access mode: <https://documents.un.org/doc/undoc/gen/n24/272/24/pdf/n2427224.pdf>
- 4 2025: The year we decide the internet's future. — 2025. — [Electronic resource]. — Access mode: <https://globalvoices.org/2025/01/08/2025-the-year-we-decide-the-internets-future/>
- 5 Анисимов М. Глобальный цифровой договор и отражение глобальных технологических процессов в Казахстане [Электронный ресурс] / М. Анисимов // Казахстанская повестка вопросов по ИИ. Материалы круглого стола «Технологии ИИ и Казахстан», 24 октября 2024 г. — Режим доступа: <https://www.aiforglobal.kz/otcheti>
- 6 В Казахстане появится совет по искусственному интеллекту под руководством Токаева. — 2025 г. — [Электронный ресурс]. — Режим доступа: <https://www.zakon.kz/politika/6463464-v-kazakhstane-poyavitsya-sovet-po-iskusstvennomu-intellektu-pod-rukovodstvom-tokaeva.html>
- 7 Концепция развития искусственного интеллекта на 2024–2029 годы / Постановление Правительства Республики Казахстан от 24 июля 2024 года № 592. — [Электронный ресурс]. — Режим доступа: <https://adilet.zan.kz/rus/docs/P2400000592#z187>
- 8 Проект закона об искусственном интеллекте (инициированный депутатами). — 2025. — [Электронный ресурс]. — Режим доступа: <https://mazhilis.parlam.kz/ru/all-bill/759>
- 9 Досье на проект Закона Республики Казахстан «О внесении изменений и дополнений в некоторые законодательные акты Республики Казахстан по вопросам искусственного интеллекта». — 2025. — [Электронный ресурс]. — Режим доступа: https://online.zakon.kz/Document/?doc_id=32-933085&pos=6;-106#pos=6;-106
- 10 Microsoft to spend \$80bn on AI data centers in 2025. — 2025. — [Electronic resource]. — Access mode: <https://www.datacenterdynamics.com/en/news/microsoft-ai-data-center-80-billion/>
- 11 OpenAI announces “The Stargate Project”: \$500bn over four years on AI infrastructure. — [Electronic resource]. — Access mode: <https://www.datacenterdynamics.com/en/news/openai-announces-the-stargate-project-500bn-over-four-years-on-ai-infrastructure/>
- 12 Musk's xAI considering second data center, \$5bn Dell server deal. — 2025. — [Electronic resource]. — Access mode: <https://www.datacenterdynamics.com/en/news/musks-xai-considering-second-data-center-5bn-dell-chip-deal/>
- 13 DeepSeek: The ChatGPT Moment for China's Internet Companies. — 2025. — [Electronic resource]. — Access mode: <https://kraneshares.com/deepseek-the-chatgpt-moment-for-chinas-internet-companies/>
- 14 О торговых барьерах и неравенстве в битве на поле ИИ. — 2025. — [Электронный ресурс]. — Режим доступа: <https://www.inform.kz/ru/o-torgovih-barerah-i-neravenstve-v-bitve-na-pole-ii-d326fd>

М.Ш. Құрманғали, Р.А. Коржумбаев

Жасанды интеллекті жаһандық басқару және оның ұлттық деңгейдегі көрінісі (кейбір негізгі құқықтық-технологиялық қырлары)

Зерттеу мақаласының мақсаты — жасанды интеллекті жаһандық басқарудың қазіргі құқықтық және технологиялық қырларын және оның Қазақстан жағдайында ұлттық деңгейдегі көрінісін ғылыми және сараптамалық талдау. Зерттеу мәселесі жасанды интеллект саласындағы жаһандық тенденцияларды талдау және Қазақстанның жасанды интеллекті жаһандық басқару процестеріне және осы саладағы халықаралық ынтымақтастыққа қатысу мүмкіндіктерін анықтау, сондай-ақ біздің елімізде жасанды интеллекті дамыту саясатын, ережелері мен нақты шараларын қалыптастыру. Мақалада сапалы зерттеу әдістері, сондай-ақ әдебиеттерге шолу, синтез, жүйелі шолу, оның ішінде халықаралық құжаттарды және жасанды интеллекті басқару саласындағы ағымдағы тәжірибелерді талдау әдістері қолданылды. Зерттеу нәтижелері жаһандық цифрлық кеңістіктегі басқару субъектілерін анықтауда жаһандық цифрлық шарт туралы білімдерді талдау мен жүйелеуден тұрады. Қазақстандағы жасанды интеллекті басқарудың жаһандық процестерін ұлттық деңгейдегі көрінісі мәселелері талданды. Жасанды интеллект экожүйесінің мәселелері және ұлттық жасанды интеллекті дамытудың

тұжырымдамалық тәсілдері зерделенген. Авторлардың негізгі тұжырымдары мынадай: Қазақстан жасанды интеллектті дамыту саясатында осы саладағы ұлттық мүдделерді ілгерілету үшін жасанды интеллект саласын реттеудің әлемдік трендтерді де, қалыптасып келе жатқан халықаралық құқықтық базаны да ескеруі қажет.

Кілт сөздер: жасанды интеллекті жаһандық басқару, заң және жасанды интеллект, жасанды интеллекттің технологиялық қырлары, Қазақстандағы жасанды интеллект.

М.Ш. Курмангали, Р.А. Коржумбаев

Глобальное управление искусственным интеллектом и его отражение на национальном уровне (некоторые основные право-технологические аспекты)

Цель исследования статьи заключается в научном и экспертном анализе актуальных право-технологических аспектов глобального управления искусственным интеллектом и его отражения на национальном уровне на примере Казахстана. Исследовательский вопрос состоит как в анализе глобальных тенденций в сфере искусственного интеллекта, так и в выявлении возможностей участия Казахстана в процессах глобального управления искусственным интеллектом и международного взаимодействия в этой сфере, а также при формировании политики, правил и конкретных мер по развитию искусственного интеллекта в нашей стране. В статье использовались качественные методы исследования, а также методы обзора литературы, анализа и синтеза, систематический подход, включая анализ международных документов и текущей практики в сфере управления искусственным интеллектом. Результаты исследования состоят в анализе и систематизации вопросов, связанных с глобальным цифровым договором, с определением субъектов управления в глобальном цифровом пространстве, а также в выводах, касающихся отражения на национальном уровне глобальных процессов управления искусственным интеллектом, включая вопросы экосистемы искусственного интеллекта, концептуальных подходов к развитию национального искусственного интеллекта в Казахстане. Основные выводы авторов состоят в том, что в политике по развитию искусственного интеллекта, Казахстану необходимо учитывать, как глобальные тенденции, так и формирующиеся международно-правовые рамки регулирования сферы искусственного интеллекта для продвижения национальных интересов в этой сфере.

Ключевые слова: глобальное управление искусственным интеллектом; право и искусственный интеллект; технологические аспекты искусственного интеллекта; искусственный интеллект в Казахстане.

References

- (2024). Outcome document: Pact for the Future. UN General Assembly Resolution. *un.org*. Retrieved from <https://www.un.org/en/summit-of-the-future>
- Kukeyeva, F. (2024). Theoretical and Methodological Approaches to Studying Artificial Intelligence in the Context of International Relations and International Law. *Journal of Central Asian Studies*, 1, 93, 4–21.
- (2024). Global Digital Compact. SUMMIT OF THE FUTURE OUTCOME DOCUMENTS. *un.org*. Retrieved from <https://documents.un.org/doc/undoc/gen/n24/272/24/pdf/n2427224.pdf>
- (2025). 2025: The year we decide the internet's future. *globalvoices.org*. Retrieved from <https://globalvoices.org/2025/01/08/2025-the-year-we-decide-the-internets-future/>
- Anisimov, M. (2024). Globalnyi tsifrovoy dogovor i otrazhenie globalnykh tekhnologicheskikh protsessov v Kazakhstane [Global Digital Compact and Reflection of Global Technological Processes in Kazakhstan]. *Kazakhstanskaia povestka voprosov po II. Materialy kruglogo stola «Tekhnologii II i Kazakhstan» — Kazakhstan's AI Agenda. Proceedings of the Round Table "AI Technologies and Kazakhstan"* (pp. 4–8). Retrieved from <https://www.aiforglobal.kz/otcheti>
- (2025). V Kazakhstane poiavitsia sovet po iskusstvennomu intellektu pod rukovodstvom Tokaeva [A Council on Artificial Intelligence will be established in Kazakhstan under the leadership of Tokayev]. *zakon.kz*. Retrieved from <https://www.zakon.kz/politika/6463464-v-kazakhstane-poiavitsia-sovet-po-iskusstvennomu-intellektu-pod-rukovodstvom-tokaeva.html>
- Kontseptsiia razvitiia iskusstvennogo intellekta na 2024–2029 gody. Postanovlenie Pravitelstva Respubliki Kazakhstan ot 24 iuliia 2024 goda № 592 [Concept of Development of Artificial Intelligence for 2024–2029. Resolution of the Government of the Republic of Kazakhstan dated July 24, 2024 No. 592]. (2024, 24 July). *adilet.zan.kz*. Retrieved from <https://adilet.zan.kz/rus/docs/P2400000592#z187>
- (2024). Proekt zakona Respubliki Kazakhstan ob iskusstvennom intellekte (initsirovannii deputatami) [Draft Bill of the Republic of Kazakhstan on Artificial Intelligence (initiated by members of Parliament)]. *mazhilis.parlam.kz*. Retrieved from <https://mazhilis.parlam.kz/ru/all-bill/759>
- (2025). Dose na proekt Zakona Respubliki Kazakhstan «O vnesenii izmenenii i dopolnenii v nekotorye zakonodatelnye akty Respubliki Kazakhstan po voprosam iskusstvennogo intellekta» [Dossier on the Bill of the Republic of Kazakhstan "On Amend-

ments and Additions to Certain Legislative Acts of the Republic of Kazakhstan on Artificial Intelligence”]. *online.zakon.kz*. Retrieved from https://online.zakon.kz/Document/?doc_id=32-933085&pos=6;-106#pos=6;-106

10 (2025). Microsoft to spend \$80bn on AI data centers in 2025. *datacenterdynamics.com*. Retrieved from <https://www.datacenterdynamics.com/en/news/microsoft-ai-data-center-80-billion/>

11 (2025). OpenAI announces “The Stargate Project”: \$500bn over four years on AI infrastructure. A new company building huge data centers. *datacenterdynamics.com*. Retrieved from <https://www.datacenterdynamics.com/en/news/openai-announces-the-stargate-project-500bn-over-four-years-on-ai-infrastructure/>

12 (2025). xAI considering second data center, \$5bn Dell server deal. *datacenterdynamics.com*. Retrieved from <https://www.datacenterdynamics.com/en/news/musks-xai-considering-second-data-center-5bn-dell-chip-deal/>

13 (2025). DeepSeek: The ChatGPT Moment for China’s Internet Companies. *kraneshares.com*. Retrieved from <https://kraneshares.com/deepseek-the-chatgpt-moment-for-chinas-internet-companies/>

14 (2025). O torgovykh barerakh i neravenstve v bitve na pole II [On Trade Barriers and Inequality in the AI Battlefield]. *inform.kz*. Retrieved from <https://www.inform.kz/ru/o-torgovykh-barerah-i-neravenstve-v-bitve-na-pole-ii-d326fd> [in Russian].

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