

SCTCMG 2021

International conference «Sustainable development of national business systems: conditions and prospects»

**SOCIETY SECURITY ISSUES IN THE CONDITIONS OF
CREATION OF ARTIFICIAL INTELLIGENCE**

Bandurin Mikhail Aleksandrovich (a)*, Bandurina Inna Petrovna (b),
Bandurin Alexander Petrovich (c)

*Corresponding author

(a) Kuban State Agrarian University named after I.T. Trubilin, 13/20-161, Kalinina str., Krasnodar, 350044, Russia,

chepura@mail.ru

(b) Kuban State Agrarian University named after I.T. Trubilin, 13/20-161, Kalinina str., Krasnodar, 350044, Russia,

chepuraib@gmail.com

(c) Novocherkassk Engineering and Reclamation Institute named after A. Kortunov, Don State Agrarian University,

46–56, Dubovskogo str., Novocherkassk, 346400, Russia, ap49b@mail.ru

Abstract

The article presents a detailed analysis of the issues of risks and threats to the security of the individual and society in the context of the creation of artificial intelligence in modern society. The process of forming an information society is continuously associated with the introduction of information processing systems, new computer technologies and digital devices, advanced technical solutions and industries that are inseparable from the progressive development of man and humanity as subjects of new social action in a digital format. This circumstance determines the need for a digital revolution that provides a breakthrough in technological processes and changes in the life principles of the person himself. The process of forming an information society is continuously associated with the introduction of information processing systems, new computer technologies and digital devices, advanced technical solutions and industries that are inseparable from the progressive development of man and humanity as subjects of new social action in a digital format. This circumstance determines the need for a digital revolution that provides a breakthrough in technological processes and changes in the life principles of a person.

2357-1330 © 2021 Published by European Publisher.

Keywords: Artificial intelligence, progress, social security, threats



1. Introduction

In the conditions of modern society, social interaction of people is increasingly determined and mediated by technology. Today, society is becoming not just a community of interconnected people, but is rapidly transforming into a techno-society, in which personal social, economic and cultural interactions are largely determined by modern digital technologies, because the fundamental social process of interaction depends on one of the forms of technologically mediated interaction. It is information technologies that today define the essence of modern society as an information society, acting as a new, more advanced standard of a techno-society.

The digitalization of society inevitably puts the question of creating artificial intelligence on the agenda. A carrier, which can be both a separate individual and a system of technically equipped information-digital creatures that bring under control a certain natural environment for themselves in the form of a place of residence for people (agglomeration, city, rural settlement), a natural landscape as a factory for agricultural activities, outer space, etc. (Yarichin et al., 2018).

Digital media spaces are also being created, the main task of which is to accommodate the actions of artificial intelligence to control robots, robotic systems, smart cars, houses and apartments, high-speed trains, driver-less cars and complex medical operations. But at the same time, digitalization contributes to the formation of an elusive social reality in intellectual potential, the liberation of a person from intellectual and creative efforts in the course of transferring, as they say, routine, non-creative and repetitive functions to smart machines as carriers of artificial intelligence. But it often happens that it is difficult to determine where creativity ends and routine begins; there is an imperceptible substitution of one for the other, which often leads to the creation of a “partial” person who performs a one-sided function in the entire lively and possibly wide palette of his activities. This leads to the conservation of this function in a person, securing to him a certain vital part of the activity associated with professional functioning, which makes it possible in the conditions of a techno-society/info-society to replace a person in partial functions by digital systems with the help of appropriate technologies controlled by artificial intelligence. Such a replacement of a person begins to occur both at the physical level of his existence and in the social plane (Yasnitsky & Gladkiy, 2020). For example, advances in biology make it possible to use stem cells in the cultivation of various organs of the body, medicine has gained the ability to carry out operations without simple incisions and perform intra-body manipulations to replace and treat damaged areas of the nervous and circulatory systems, restore blood flow in case of heart attack and stroke; now, operations can to replace the heart, liver, kidneys. The practice of arthroplasty of joints is widely introduced. Endoskeletons are used in production, construction, military affairs, taking physical activity and increasing the muscle strength of a person dozens of times.

2. Problem Statement

The solution to the problem of the safety of the individual and society in the context of the creation of artificial intelligence in modern society is very acute. In socio-cultural terms, the physical condition of a person is adversely affected by an inadequate food culture, its imbalance, neglect of proper food intake and healthy nutrition, the desire of entrepreneurs to make money by releasing and producing counterfeit

products. This contributes to a decrease in the quality of the population, leads to its general degradation. A significant deterioration in the qualitative characteristics of the population is associated with its health, physical and psychological, mental and spiritual degradation. In addition, the techno-society/info-society, creating artificial intelligence and replacing a person with it, creates a situation of ousting it from the sphere of direct production, requiring it to mediate, creative participation in this process. But not everyone can do this by their strength and creative abilities, and the very process of human labor participation is becoming a continuation of digital technologies.

3. Research Questions

The object of the research is the modern Russian society in the digital dimension. The process of formation and development of digital technologies and devices for their application in the development of production and consumption is considered.

The subject of the research is the analysis of the processes of implementation of individual segments of artificial intelligence in various spheres of life in modern society.

The scientific novelty of the research lies in the development of recommendations for improving the methods of implementing the digitalization of society with an integrated approach to the problems of the development of digital technologies.

4. Purpose of the Study

The aim of the work is to identify certain patterns in the use of digital technologies in an integrated format. The main directions and prospects for the development of a modern digital society are determined.

5. Research Methods

The American researcher Lu Mafinoff (Morkhat et al., 2019), having analyzed the harmful effects of the techno-society, identifies eight problems imposed on them: 1) the degeneration of writing and cognitive deficits; 2) an increase in the level of stress due to the continuous use of favorite devices by people of techno-societies, whose consciousness is completely immersed in the virtual world; 3) the widespread use of artificial intelligence leads to the undermining and weakening of human natural intelligence, which creates the danger of a gradual withdrawal of the human mind from use; 4) there are depression, mood dysfunctions, cognitive-behavioral disorders caused by cultural factors that are associated with the regemanizing influence of society; 5) material abundance in tandem with spiritual security with an excessive influence on technology in solving human problems and a corresponding disregard for the humanities and arts led to a general loss of the meaning of life in modern people; 6) there was a virtualization of identity, especially of young people, through the movement of a person from real space to virtual, making the person indistinguishable, ephemeral, vulnerable; 7) the migration of consciousness into virtual space causes a distorted perception of the reality, which becomes a new reality; 8) with a general increase in the level of literacy, “cultural illiteracy” progresses as a state where you can read words without understanding their meaning, because thousands of objects of cultural heritage that

were considered necessary for a general cultural orientation, a priority within the framework of a single educational program, have disappeared from the collective consciousness; but replaced today by the techno-society with a stream of disordered information, which is systematized by opaque algorithms of search engines: anonymous, faceless and value-neutral (Yurchenko, 2018a).

Thus, the creation and development of artificial intelligence based on radical changes in digital technologies affects not only human natural intelligence, but also changes industrial production, the economy, and society as a whole. These changes will also affect the labor market, the system of professional qualifications, the development of education, healthcare, and other socially significant spheres of life. This progress, on the one hand, leads to positive social changes in the life of people, contributing to the growth of the creative content of labor and its safety, and on the other hand, it contributes to an increase in social uncertainty and riskiness in society, since the loss of the usual group identity is not always compensated by the acquisition of a new information-digital identity, which is accompanied by various losses in social-group relations, a decrease in their intensity, individualization and social atomization, hispanism and detachment from habitual social localizations and the loss of previous sources of income and the emergence of a precariat (Drygin & Pronkin, 2020).

Many researchers associate the emergence of artificial intelligence with changes in the social conditions of the development of digital technologies that are taking place today at the stage of the 4th industrial revolution. At the same time, it is noted that the 4th industrial revolution is not realized automatically, but depends on many social factors, including the level of development of information technologies, the prevailing types of corporate culture, the quality of socio-economic policy, the development of relevant areas of science, the form of the political population, that is, it can only occur when the industry, economy and society are ready (Yasnitsky & Gladkiy, 2020).

We agree with the position that at the core of this revolution is the transformation of the production process in an industrial enterprise, the formation of the so-called “smart enterprise” (Bandurin et al., 2018). But in a broader sense, it is also associated with the formation of a “smart living environment”, “smart city”, “smart apartment”, “smart home”, the production of a “smart car”, the creation of “smart trains”, regulating and controlling the role of human natural intelligence in the functioning of which it will strive for zero participation of securing to it the activity of creating, configuring and externally controlling functions to ensure safety of a technogenic nature. As you can see, today “islands” are being created that serve as a kind of nodes of a digital communication system for various manifestations of artificial intelligence (Zuev, 2020). Enterprises, companies, organizations, corporations, firms working in the field of the regulatory action of artificial intelligence widely use cloud technologies, big data, Internet of things, 3D printing, 5G mobile communications.

6. Findings

The modern global market for artificial intelligence technologies is determined by the interaction of manufacturers and consumers. Today, states that develop their development strategies in this area play an important role in the formation of national markets for artificial intelligence. The main players in this regard are the United States and China, with the publication of national strategies for the development of artificial intelligence in 2016 and 2017. In Russia, it also begins in 2016, there has been a transition to an

increase in the number of companies creating and offering artificial intelligence technologies, on October 10, 2019, the “Decree of the President of the Russian Federation “On the Development of Artificial Intelligence in the Russian Federation” was issued as one of the leading state legal regulations.

It should be noted that the idea of artificial intelligence arose back in the middle of the last century in the context of a philosophical discourse about the possibility of replacing a person with a robot and displacing him outside of industrial production as its direct agent in the transfer of routine, non-creative functions to robotic, automated systems, in the functioning of which a person can only creative work on the creation, control and adjustment of such industries. In the 1950s–1960s, there was progress in the institutionalization of artificial intelligence as a scientific discipline (Levi, 2019). However, it was held back, in our opinion, by the high cost and cumbersome volume of electronic computers, which were collective production units, the lack of their large-scale individual use, the lack of communication within local electronic computing systems, which made them low-power, their memory capacity was not enough to solve complex tasks of artificial intelligence. And only with the advent of new electronic computing technology, an increase in its memory and the power of processes that perform millions of operations per second, the appearance on the market of home computers that contribute to the individualization of this field of activity, the creation of intelligence, gave rise to a digital boom and increased the interest in the formation of artificial intelligence.

In the market of artificial intelligence technologies, where the manufacturer and the consumer meet, the product is a solution (Hashimoto et al., 2020), which is offered by a specific developer company, which is a combination of expert analysis of a team (or an individual specialist) offering software the algorithm of which is configured for specific, data of the customer company as a consumer of a unique product, the development of which is achieved on the basis of three components: personnel, capacities and data. In our opinion, artificial intelligence should not be considered in isolation from computer power and people solving certain social problems on the basis of the data provided. In this case, artificial intelligence arises as an aggregate function that manifests itself on the basis of the action of these three factors. The maturity of the intellect under consideration depends on how the cadres using computer technology and the necessary data will converge, merge and act. Artificial intelligence is developed and implemented by the activities of people with intelligence as subjects of social action based on their use of electronic computers and digital technologies in various fields. Today in Russia there are about 10 thousand industrial companies using artificial intelligence technologies; and although the role and scale of their distribution are small, according to the estimates obtained, they have a positive effect on the prospects for the development of enterprises (Bandurin et al., 2018).

In connection with the digitalization of the economy and the introduction of artificial intelligence in all spheres of social life, we have the opportunity to talk about the beginning of a new social time, since the beginning of this process, it has a deep social meaning and has important social consequences, is deeply socially significant, since it is the time of the emergence of information and digital identity, characterized by the belonging and relationship of a person as a person to a certain digital society, which is at one stage or another of the achievement and formation of artificial intelligence.

Different societies and the people that make up them are in different social times and socio-identification dimensions. It is argued that in our time a small avant-garde of countries is already starting

a transition to a new stage of humanity – trans-industrialism as the forcing of post-industrialism (Bobrow & Brady, 1998). Its first steps are already being taken, society is changing, a new social time has begun. One of the possible signs and scenarios of the ongoing social changes is the emergence of digital practitioners in the context of the latest digital technologies. “It has no analogues in the history of mankind, and it is associated with the collective invention of a technology before our eyes that has not yet been comprehended, the technology of artificial intelligence (AI)” (Yurchenko, 2018b, p. 1255).

In order to cope with the threat of loss of identity and find it in interaction with the newly emerging digital social reality, the subject of social action needs to look for interactions with a self-developing polysubjective environment according to the scheme: subject-meta-subject. A person as a subject of social action in a self-developing polysubjective digital environment acquires, in proportion to his own development, his individual version of artificial intelligence of a metasubjective nature. For an individual as a subject-carrier of artificial intelligence, the polysubjective digital environment, acting as an all-encompassing social system, to one degree or another creates and represents a kind of digital endoskeleton for individual artificial intelligence. Thus, the possibilities of creating and forming a new digital communicative social reality are formed, which increases the intellectual potential of a person as a separate carrier of artificial intelligence, and the entire digital society as a certain intellectual formation of an artificial nature that generates the vital activity of modern society at all its levels.

A new communicative interaction, defined by emerging artificial intelligence, takes place in a changing social space and social time. The social space and the communications taking place in it cannot already exist and be carried out without various kinds of technical systems and types of technology, the apogee of which was the emergence of electronic computers capable of regulating production processes, controlling technical systems in specified parameters and controlling information flows. A new social time is emerging in the continuum of astronomical time, designated as the information age, the emergence of cyberspace becomes its distinguishing feature, which is a social-temporal event of deep social significance (Ali & Chawathe, 2000).

It appears in the 90s of the XX century with the spread of the Internet as a space for the interaction of people and social groups with the help of electronic computers, connected in a network through the use of information and communication technologies. Under their influence, cyberspace has a regulatory impact on the organization of production and social relations in the digital age. In this regard, we can agree with the statement that cyberspace is a new habitat for modern humans. Regardless of the will and consciousness, each individual is a part of this environment, since most social interactions in the modern world occur through information and communication technologies, the product of which is this all-embracing digital reality. Cyberspace can be viewed alongside with the physical and social space, revealing the features of the former and the latter. In this new environment, a global system of social production is being created, which makes it possible to use natural and industrial resources in a new way. Being extremely mobile and flexible, the cyberspace environment not only creates an infinite number of new opportunities, but also generates new risks that humanity has never faced before (Liebowitz, 2001).

7. Conclusion

Summing up, let us note some of the risks and threats to the security of human existence arising in connection with the use of a new intellectual resource of mankind – artificial intelligence – which is the brainchild and product of cyberspace. First of all, they are associated with the gradual ousting of a person from the production process, a decrease in his creative potential, because today's intelligent and technical computer systems calculate, scan, copy, prepare drawings, provide information better and faster. A certain electronic management slang is being created, which replaces ordinary language as a means of verbal communication. Under these conditions, culture becomes individualized, the semantic meaning of direct personal communication is lost, which is more and more formalized. Morals change, customs are lost, traditions are becoming a thing of the past. Relationships in the family and society are depersonalized, the usual meaning of family values in social regulation is lost. Aggressiveness arises in social relations, which is easily broadcast and turns into aggressive technologies of nonviolent actions, passed off as “soft power” to overthrow unwanted regimes in certain countries. For schoolchildren and students, the artificial intelligence of cyberspace is becoming a kind of brain substance from which the necessary information for testing is drawn with the help of smartphones and laptops, so their intellectual potential decreases. No need to memorize and learn – everything is in a laptop! You just need to be able to press buttons, and the machine with its artificial intelligence will answer all the questions.

In addition, there are threats of increasing social distances and increasing social inequality of various social groups, different countries and peoples in the use of artificial intelligence. We agree that cyberspace has no boundaries, it is a global state and attempts to limit it are doomed to failure if they are not of a totalitarian nature. And in this part, the social, economic, material, technical capabilities of countries differ greatly.

For Russia, there are risks associated with innovative development and entry into the sixth technological order based on the 4th industrial revolution through the effective use of domestic intellectual potential and world experience.

References

- Ali, M., & Chawathe, A. (2000). Using artificial intelligence to predict permeability from petrographic data. *Computers & Geosciences*, 26(8), 915–925.
- Bandurin, M. A., Volosukhin, V. A., Mikheev, A. V., Volosukhin, Y. V., & Vanzha, V. V. (2018). Finite-element simulation of possible natural disasters on landfall dams with changes in climate and seismic conditions taken into account. *Journal of Physics Conference Series*, 1015, 032011.
- Bobrow, D. G., & Brady, J. M. (1998). Artificial intelligence 40 years later. *Artificial Intelligence*, 103(1–2), 1–4.
- Drygin, D. S., & Pronkin, N. N. (2020). Application of artificial intelligence in medicine. *International Journal of Professional Science*, 1, 35–38.
- Hashimoto, D. A., Witkowski, E., Meireles, O., Rosman, G., & Gao, L. (2020). Artificial intelligence in anesthesiology: current techniques, clinical applications, and limitations. *Anesthesiology*, 132(2), 379–394.
- Levi, D. A. (2019). The typology problem of digital currencies and their role in global digital economy development. *Espacios*, 40(16), 9.
- Liebowitz, J. (2001). Knowledge management and its link to artificial intelligence. *Expert Systems with Applications*, 20(1), 1–6.

- Morkhat, P. M., Ponkin, I. V., Botnev, V. K., Turganbayev, A. O., & Markhgeym, M. V. (2019). Artificial intelligence versus public administration: limitations of application. *Humanities and Social Sciences Reviews*, 7(3), 516–520.
- Yarichin, E. M., Gruznov, V. M., & Yarichina, G. F. (2018). Intellectual paradigm of artificial vision: from video-intelligence to strong artificial intelligence. *International Journal of Advanced Computer Science and Applications*, 9(11), 16–32.
- Yasnitsky, L. N., & Gladkiy, S. L. (2020). New possibilities of application of artificial intelligence methods for high-precision solution of boundary value problems. *Mathematics and Statistics*, 8(3), 323–333.
- Yurchenko, I. F. (2018a). Information support for decision making on dispatching control of water distribution in irrigation. *Journal of Physics: Conference Series*, 1015, 042063.
- Yurchenko, I. F. (2018b). Information support system designed for technical operation planning of reclamative facilities. *Journal of Theoretical and Applied Information Technology*, 96(5), 1253–1265.
- Zuev, S. V. (2020). Artificial intelligence internet monitoring to detect and solve crimes. *Lecture Notes in Networks and Systems*, 111, 637–643.