

Human and ethical risks of digitalization

Svetlana A. Bezklubaya*

bezkluba@email.com

<https://orcid.org/0000-0001-5713-9044>

<https://doi.org/10.31192/np.21.3.8>

UDK / UDC: [004:316]:179

179:[004:316]

Prethodno priopćenje /

Preliminary communication

Primljeno / Received: 3. svibnja 2023. / May 3, 2023

Prihvaćeno / Accepted: 12. rujna 2023. / Sep 12, 2023

Digitalization as a direct expression of global information business is the reason for modern civilization's transformation. The total commercialization of information technologies' super-productivity turns humans into progress »costs«, devaluing their creative power, morality and ethics. Therefore, the object of this study is to be a person in the face of growing ethical risks caused by ever-accelerating digitization and information processes. The purpose of the work is to identify the problems of ethics and ethical risks as specific and most significant for the digital society. It also shows the main approaches to their solution. An analysis of a person's consumer attitude to technical achievements reveals the reasons for spirituality destruction as the basis of human integrity. This is due to changes in communication forms – language, art, education, and religion. Digitalization as open information makes it possible to specify ethical risks as a reflection of a human's life situation. Values and meanings play a crucial role. Digitalization's ethical risks are identified: privacy, inclusiveness, security, trust, and fairness. The main approach to preventing digitalization ethical risks is the establishment of a techno-humanitarian balance or the development of adequate cultural regulators (human-centricity, overcoming digital inequality) that oppose the growth of destructive power of new technologies in relation to universal human values and humaneness. The methodological basis of the study was the philosophical discourse of consequentialism. This determines the main condition for technology development to find a balance between risk and benefit and cultural and philosophical reflection. The theoretical conclusions contained in this work open up new opportunities for science to concretize practical ap-

* Svetlana A. Bezklubaya, PhD, Assoc. Prof. at the Chair of Philosophy, Institute of General Engineering Training at Moscow Aviation Institute (National Research University), A-80, TCI-3, 4 Volokolamskoe shosse, 125993 Moscow, Russia.

proaches to solving moral problems and ethical risks in human existence. This is in the era of digital culture transformation.

Key words: *digital divide, digitalization, ethical risk, fairness, human-centricity of digital services, inclusiveness, privacy, security, trust.*

Introduction

The transition of humanity toward a digital society exacerbates the conflict of values. This actualizes the need to identify ethical risks and find approaches to prevent their recurrence in the future. In this study, the following tasks are solved: a) Consideration of the main aspects of digitalization in connection with the problem of human existence (spiritual, moral, ethical) in the global process of informatization of society and culture; b) Concrete of ethical problems caused by digital technologies; c) Identifying ethical risks (privacy, inclusiveness, security, trust, fairness) of the digital transformation of culture and designation approaches to their prevention (human-centricity of digital services, overcoming digital and information inequality), and ways to establish a techno-humanitarian balance. The study is based on the method of consequentialism – ethics, built on a thorough assessment of the possible risks associated with technology, and their regulation; as well as philosophical and cultural approaches. The practical significance of the study lies in the fact that the results obtained can be used in the development of ethical recommendations for adapting civil servants and educational institutions' work in the context of digitalization.

1. Human in the space of information and digitalization.

Mankind did not face digitalization until the fourth industrial revolution, which led to an inexhaustible information resource in a culture. The human being was the result of information processes before he created information on his own. The human body is informative (it functions - you can hear the heartbeat, blood flows in the vessels, etc.) and when the body's work changes, a person creates updated information about his body. Cultural life has changed a person, and first of all, his body - the brain, the speech apparatus, the hand structure. Everything in a person is tuned to the perception of natural but cultural information as well. Language becomes the basis for processing various kinds of information for a person.

Understanding what is hidden behind the word information is easy and difficult at the same time. It is easy because we intuitively comprehend the mean-

ing of phrases such as the age of information, information hunger, information approach, etc. Information is difficult to understand its most significant features: selection, value, truth. The scientific idea of what information is is associated with the appearance in the 70s XX century theory of self-organization of complex open systems and nonlinear dynamics. Since then, information has been seen as data, and communication as a connection.

This interpretation of information is more applicable to the description of former leisurely times. Post-industrial communities worship those technologies that allow modeling the image of reality in an accelerated time mode. Therefore, in our days »information is a process that goes through many stages, is irreversible in time and capable of self-organization. The speed at which information is passing is determined by life itself«.¹

Technology's total spread and super-productivity have resulted in the digitalization of spheres of society and most importantly the economy in particular. The digital revolution has occurred thanks to artificial intelligence technologies, machine learning and extensive data. These technologies can use an unlimited amount of information to process, classify and digitize reality.

The emergence of the term »digitalization« is associated with the introduction of the concept of »digital economy«² into scientific use in 1995 by the American computer scientist Nicholas Negroponte. The main elements of the digital economy are e-commerce, internet banking, e-payments, internet advertising and e-access to public services. The degree of accessibility and active use of these directions is determined by the state's digitalization index (DEI, Digital Evolution Index).

Digitalization as a combination of different technologies, such as digital twins, various software modeling methods to speed up and improve tests, debugging and commissioning; the possibility (and profitability) of producing products in very small batches and piece by piece with customization for an individual client; the industrial Internet of Things (IoT) with many additional features is actively changing the business, i.e. accelerates the cycle from design to release, makes products more specialized, increases the payload of equipment, etc.

Digitalization as a change in the principles of doing any business is considered by experts to be a promising way to improve production and economic processes and obtain excess profits. Peter Weill and Stephanie Woerner differentiated companies' business models in terms of their use of information technology in the transition from value chains to ecosystems. They also achieved a deeper understanding of end consumers' needs through: Machine learning (artificial intelligence); Robotization of processes (RPA); Processing of big data

¹ Irina MELIK-GAIKASYAN, Influence of Changing World as an Informational Process, *Chelovek* [The Human Being], 18 (2007) 3, 32-43; <https://chelovek-journal.ru/?sl=en>.

² Nicholas NEGROPONTE, *Being Digital*, New York City, Alfred A. Knopf, 1995, 4.

(big data); Use of the Internet of Things (IoT) and mobile applications; Advanced data analytics that use all of the above.³

The digitalization of the modern global economy has led to the fact that the individual has been embraced by digitalization globally. Even a brief enumeration of digitalization proposals to humanity impresses with its diversity and ambiguity:

- i. Intellectual help. The use of artificial intelligence-based electronic talking assistants is spreading as an application for smartphones, tablets, laptops, smart watches, audio speakers, and home robots. Conversation with an electronic device that simplifies brain activity is becoming the norm. In a business environment, electronic assistants are used for reminders, at home to activate various devices, turn on music and make orders. They are also used in school as experts on a number of issues when searching public knowledge bases);
- ii. The Internet and TV allow a person to overcome alienation, avoid loneliness and form his mental instability and psychological dependence on information and communication technologies;
- iii. Electronic control and restrictions. (A person who tries to maintain anonymity in private life and refuses to be universally connected to the network is considered by the digital world capable of hiding something and even breaking the law. He falls under strict control and restrictions);
- iv. Control of the digital footprint by the search engine. (Each user of the global network leaves a digital mark in it, and search engines act as an intermediate link between a person and an information source by analyzing, controlling, collecting, classifying human needs and monopolizing information about the user);
- v. Professional digital personality profile. (The creation of a digital portfolio and a digital avatar of a person is the main argument in the process of its self-actualization, development, building a professional career and is positively perceived by like-minded people, employers and advertisers, thanks to which, over time, an active community is organized to evaluate and accept (or not accept) this person);
- vi. Digital profile in social networks (Online platforms are used to create social relations between digital profiles to discuss common interests, promote a digital avatar or strengthen offline relationships. The attractiveness of social networks is associated with its ability that arise in personal life to expand the egocentric position and to promote goods

³ Peter WEILL and Stephanie WOERNER, *What's Your Digital Business Model?: Six Questions to Help You Build the Next-Generation Enterprise*, Brighton, MA, Harvard Business Review Press, 2018.

and services within the field in which the digital personality owner is involved. A digital portrait is compiled for each digital profile, based on the data placed in the public domain about where their user lives, with whom, where he travels, what he thinks, what his partiality is, addictions, political views, sexual orientation, religious affiliation);

vii. Digital health tracking devices: monitoring indicators such as heart rate, pressure, body temperature, number of steps taken, kilocalories consumed. (Connection to the global network and the use of such digital applications allows, on the one hand, to improve the quality of life, and on the other hand, it is under the constant control of various private companies (insurance, advertising) and authorities);

viii. Lifestyle as a combination of high-tech (the unity of scientific and inventive genius, capital and education) and digital service (digital opportunity to replace possession with a service, to consolidate the importance of total connectivity in the new digital reality).

Thus, the digitalization of the social world demonstrates an open conflict of interests (economic, political, cultural, and security) of the entire society and the single person; the growth of contradictions between the free self-organization of the individual and the restrictions of the state system, between what is morally permissible and what is unacceptable. As the digital space expands and new types of activities are transferred there, the number of humanitarian problems not only grows, but acquires a clearly expressed ethical character, and, above all, against the backdrop of the ongoing decline in the importance of value-normative guidelines, the emergence of new ethical dilemmas, and the lack of ethical expertise and assessments. Observing digitalization processes creates a discussion space to consider the functioning of digital technologies as a reason for the growth of ethical problems.

2. Digital technologies as a cause of ethical problems

Global processes of informatization and digitalization should not only contribute to human well-being, but also to the creation and implementation of planetary spirituality through the integration of diverse cultures. However, our contemporary often remains a consumer of only low-grade samples of culture, focused on the promotion of violence, egocentrism, and aggression. The reason for what is happening today was foreseen at the beginning of the 20th century by Nikolay Berdyaev. It is »the power of machinism«⁴ or the substitution of

⁴ Nikolay BERDYAEV, *Istoki i smysl russkogo kommunizma* [Origins and meaning of Russian communism], Moscow, Nauka, 1999, 152.

the higher goals of life, the ideals of the spirit, humanism and freedom with technical means for the sake of unlimited consumption. Technogenic society, as noted by Erich Fromm, »turns a person into Homo consumens, a general consumer, whose goals are to have more and use more. This society produces many useless, unnecessary things. Man becomes a thing and ceases to be a man«. ⁵ In ensuring the development of technology, man realized that »unlimited satisfaction of all desires does not contribute to well-being, and that it cannot be the path to happiness or even maximum pleasure«. ⁶

Mankind's consumer attitude to technical achievements is actively changing the usual forms of communication - language, art, education, and religion. So, the invasion of national languages of foreign vocabulary reduces their status as a universal property, original speech for one or another people. This is in everyday life, on FM, TV, and the Internet. Art today relies on mass character and replication (often simply surprising), depersonalizes, and thwarts the long-term coexistence between the physical world and the spirit. In today's huge entertainment industry, topics that were previously unthinkable are featured as funny memes and pranks: loneliness, friendship, charity, love, the army, the Church, etc. Entertainment culture is rapidly freeing itself from humanistic ideals and prohibitions.

Increasingly, those areas of human life and activity that historically had the character of missionary work, selfless service, and were embodied in education and religion, are falling into the service sector more and more often. However, modern education, striving to become planetary-mass based on telecommunications (on-line mode, distance learning), turns into an expensive commodity that is not accessible to everyone and loses the main thing – the ability to transfer universal human values from a teacher, in the broadest sense of the word, to a student.

Religion is forced to fit into the service economy as an object of international trade. Religion, according to Peter Berger, »should now be 'sold' to clients who are no longer forced to 'buy'. In this situation, religious institutions become market actors, and religious traditions become consumer goods«. ⁷ Scientific and technological progress does not leave space for religion's independent existence with its inherent mythology, mysticism, traditionalism, and deep unity of artifacts of spiritual and intellectual activity. As Yuri Lotman noted, »the progress of science and technology, the secular 'pagan' character of culture shook faith in God <...> The humanists crowded God to make room for man. According to the mass layman, this place was occupied by Satan«. ⁸ Today believers are

⁵ Erich FROMM, *Imet' ili Byt'?* [To Have or To Be?], Moscow, Progress, 1990, 98.

⁶ Ibid, 78.

⁷ Peter BERGER, *Svyashchennaya zavesa* [The Sacred Canopy], *Neprikosnovenny zapas: debaty o politike i kul'ture* [Emergency Reserve: A Debate on Politics and Culture], 32 (2003) 6, 5-20.

⁸ Yuriy LOTMAN, *Tekhnicheskij progress kak kul'turologicheskaya problema* [Technological progress as a problem of culture], in: *Semiosphere*, St. Petersburg, Iskusstvo-SPB, 2000, 622.

increasingly asking the question: can religion really be just a maintenance, and not a process of spiritual development and teaching?

It is not the technicistical changes in culture themselves, but their pace, that create difficulties in a person's orientation in the world. This will change their mental nature.

The impact of technology on culture accelerated its movement. Culture experienced sharp informational, and semantic leaps. For man and culture, this state of affairs is dangerous. It takes time for information to become a cultural memory. The acceleration of cultural communication processes separates a person from cultural tradition, gives rise to chaos, and fragments everyday life. The world is perceived as »mosaic«, filled with scattered brief messages about something - that is, »reduced casts of culture«⁹.

Humans have always sought to overcome fragmentary perceptions of the world in various ways. Depending on these methods, he received specific names in culture: Homo totus, Homo loguens, Homo soziologikus, Homo ludens, etc. The rapid change of the world creates uncertainty, which practically deprives the individual of a comprehensively considered choice. The choice and freedom of its implementation emphasize the original unity of mankind's spiritual life as a supra-individual reality,

»(...) present in us, merged with us from the inside and revealing itself to us. The reality given in this inner experience always transcends beyond the limits of the opposition between 'subjective life' and the 'object' external to it. It is not given to external object contemplation, but to internal living knowledge«¹⁰.

As Fyodor Dostoevsky wrote in the novel *The Brothers Karamazov*: »even 'breads' (breads means not only need and hunger, but also the inevitability of retribution) is nothing – without a choice to whom to hand conscience and to whom to bow down«¹¹. The oppression of a person »by such a terrible burden as 'freedom of choice' makes freedom completely unbearable for a person and can lead him, in moments of spiritual doubt, to deny Christ's truth. Only faith in a miracle can prevent rebellion. The truth of Christ presupposes only free choice, no matter how difficult it may seem to a person«¹².

The freedom of supra-individual choice forms the area of the Spirit, which, as Martin Buber writes, does not exist in the I, but

»(...) between the I and YOU. It will not be true to liken the Spirit of blood that flows in you, it is like the air that you breathe. A person lives in the spirit

⁹ Abraham MOLES, *Sociodinamika kul'tury* [Sociodynamics of Culture], Moscow, LKI, 2008, 40.

¹⁰ Semyon FRANK, *Duhovnye osnovy obshchestva* [Spiritual Foundations of Society], Moscow, Respublika, 1992.

¹¹ Fyodor DOSTOEVSKY, *The Complete Works*, Vol. 14, Leningrad, Nauka, 1976, 232.

¹² Ibid, 78-90.

if he has the ability to answer the YOU. He can do this when he enters into a relationship with his whole being«.¹³

The Spirit brings us closer to the integrity of the world and gives us, through the wisdom of silence or deep prayer, a feeling of unity with the eternal and infinite. This feeling is experienced in the form of a religious feeling.

Religious feeling is an extra-verbal and extra-figurative form of communication with the world,

»taken outside the dogma of various confessions and understood as a recognition in the world of a principle that is outside of any specific relationships and properties that are inexpressible in any finite forms of consciousness, but nevertheless present in our life and giving us beneficial faith in the irreducibility of this life to functional, role-playing, final relationships; recognizing the holiness and intrinsic value of the emerging integrity of the world and beyond its relation to the satisfaction of our needs«¹⁴.

Pavel Florensky put spirituality at the head of his main postulates of »Pillar« (Faith) and »Truth« (Church). He considered it the basis of integrity and harmony, which does not tolerate pragmatism. It is directed to the future and associated with the service of the highest divine power, and therefore is concrete and abstract¹⁵.

Some fascinating ideas in the study of spirituality are contained in the writings of Nikolai Berdyaev. He believed that the highest meaning of spirituality was to serve the cause of individual elevation. »The question of bread is a material question for me«, writes Berdyaev,

»but the question of bread for my neighbors, for all people, is a spiritual, religious question (...). Man will not live by bread alone, but also by bread, bread should be for everyone. Society must be organized so that bread is for everyone. It is then that the spiritual question appears before a person in all its depths. It is unacceptable to base the struggle for spiritual interests and spiritual rebirth on the fact that bread will not be provided for a significant part of humanity«.¹⁶

The destruction of spirituality as the basis of a person's integrity is evidenced by the new names he has acquired today – Homo zwischens (hesitant person) and Homo significans (a person who creates significances, but not meanings, and, therefore, is not capable of creativity as the creation of a qualitatively new

¹³ Martin BUBER, *Dva obraza very* [Two Types of Faith], Moscow, Respublika, 1995, 37.

¹⁴ Valeriy SAGATOVSKY, *Antropologicheskaya celostnost': status i struktura* [Anthropological Integrity: Status and Structure], in: *Ocherki social'noj antropologii* [Essays in Social Anthropology], St. Petersburg, Petropolis, 1995, 46-47.

¹⁵ Pavel FLORENSKY, *Stolp i utverzhdienie Istiny. Opyt pravoslavnoj teodiceii* [Pillar and Ground of Truth. The Experience of Orthodox Theodicy], Moscow, 1914.

¹⁶ Nikolay BERDYAEV, *Istoki i smysl russkogo kommunizma* [Origins and meaning of Russian communism], Moscow, Nauka, 1992, 152.

one)¹⁷. The ongoing loss of spirituality by man in the process of digitalization has made digitalization an object of philosophical study - at the level of ethics of relations in the digital sphere¹⁸.

Thus, there is a danger of the final transformation of digitalization from the zone of free speech into a way of total surveillance, psychological aggression, unleashing information wars. This will lead to the formation of an illusion of omnipotence and permissiveness in a person, the destruction of his vital settings and spirituality. The speed of implementation of digitalization processes that are destructive for society and culture against the background of escalating social problems (polarization of society, mass impoverishment, unemployment, genocide against a number of peoples) did not leave anything indecent and forbidden in mankind's life. Morality has become a pseudo-value, a toy of fantasies and desires, and the constant daring experiment with values forces a person to expand his own ideas about good and evil. All this has created not only human, but also spiritual and ethical risks of digitalization that require an understanding of their essence, causes, approaches to preventing and minimizing their consequences.

3. Ethical risks of digitalization and approaches to their prevention.

The dynamics of culture's technological process shows that utilitarianism without ethics principles cannot be its basis. The fundamental incompleteness of ethics forms in a person a stable epistemological habit of making decisions in a risk situation, relying on morality as a historically proven system for translating sociocultural norms.

The risks of the »man-society-culture-nature« system (anthropological and technogenic pressure on the environment; advancing development of technologies in comparison with the social dynamics of values; replication of universal morality; polarization and impoverishment of society; genocide against a number of peoples, etc.) have today clearly expressed an ethical character.

The already existing ethical problems are multiplied by the high-tech activities of mankind, forming new current and delayed risks for both society and the ecosystem. Therefore, the problems of modern (including information

¹⁷ Yuriy HARIN, *Sovremennyj cvishenizm: realii i perspektivy cheloveka kak socioantropnoj total'nosti* [Contemporary Tswischenism: Realities and Perspectives of Man as a Socioanthropic Totality], in: *Sub'ektivnye prityazaniya i ob'ektivnaya logika v razvitiii obshchestva perekhodnogo perioda* [Subjective Claims and Objective Logic in the Development of a Society in Transition], Grodno, 1988, 151.

¹⁸ Irina AVDEEVA, *Cifrovizaciya kak predmet eticheskoy problematizacii* [Digitalisation as a Subject of Ethical Problems], *Philosophia i obshchestvo* [Philosophy and Society], 106 (2023) 1, 101-114.

and communication) technologies are systematically drawn into the sphere of humanitarian reflection. This is expressed in understanding the ethical impact on a person of already existing and applied technologies.

As the basis for the ordering of high-tech activities, ethics is a set of norms and principles of moral designed to show ways to resolve conflicts that arise in the professional activities of engineering and technical workers and require a certain moral position. However, modern ethics increasingly »bets not on predicting negative consequences and limiting some of the most dangerous technologies, but on the practice of innovation management and the development of projects for the technological future« (the phenomenology of technology according to Armin Grunwald)¹⁹.

Therefore, new technologies can be considered in the context of the three most common ethical discourses: deontological ethics based on strict adherence to the principles of morality as »due«; virtualist ethics, which comes from the support of the personal qualities of researchers, and shows the structure of the moral exchange between society and the individual; and consequentialism as an ethics based on a careful assessment of the possible risks and its regulation associated with technology²⁰.

For digitalization analysis, the most appropriate approach is consequentialism.

Consequentialism says high risks should be the basis for more careful control of technologies, but risks can be justified if there is hope for successful results. In consequentialism, finding a balance between risk and advantage is a defining condition for technology development²¹. Robert Nozick was one of the first to discuss ethical aspects of risk and actions that create risk; their complete prohibitions and permissions; the level of acceptable risk; and risk compensation in his *Anarchy, the State, and Utopia*²².

In itself, finding a person in an area of increased risk is above and beyond what is permitted, which is an ethical problem. Risk as an ethical problem is not limited to finding a balance between harm and benefit, in addition to technical, administrative, and organizational issues. Risk is also a reflection of a person's life situation, always understood on an individual level. Values and meanings associated with concepts such as anxiety, danger, suffering, responsibility, care, hope, fairness, dignity, privacy, and security play a crucial role.

¹⁹ Vladimir ZHELEZNYAK, Elena SERYODKINA, Engineering ethics in a technical university: challenges and expectations, *Bulletin of PNRPU. Culture. History. Philosophy. Law*, 2 (2017) 33-40.

²⁰ Arianna FERRARI, Developments in the Debate on Nanoethics: Traditional Approaches and the Need for New Kinds of Analysis, *Nanoethics*, 4 (2010) 1, 27-52.

²¹ Samuel SCHEFFLER, *Consequentialism and its Critics (Oxford Readings in Philosophy)*, Oxford University Press, 1988.

²² Robert NOZICK, *Anarchy, State, and Utopia (1974)*, Moscow, IRISEN, 2008.

Risk, understood as a real danger or even a theoretical possibility of negative consequences, is considered by modern science as the main criterion for evaluating evolving technologies. The idea of ethical risk as a factor limiting digitalization in our days has finally taken root and become a universal model.

Modern information and communication technologies are actively changing the ethical context of everyday life by undermining the traditional understanding of universal basic values - such as helping relatives, supporting one's group, mutually beneficial sharing of expenses and benefits, respect for elders, respect for private property and personal inviolability, spirituality, and humanism. A new era of big data and machine learning is putting pressure on the individuality of humans. Most ethical problems and risks arise in connection with the contradictions between the needs of the individual and the organization or between the needs of the organization and society.

The ethical risks of digitalization reveal themselves today in the steady growth of various socio-cultural processes – unemployment; public control over compliance with laws related to the introduction of digitalization; information aggression; abuse of personal data of citizens; adoption within the framework of artificial intelligence only unambiguous, and not multivalued, decision options; digitalization of morality and rejection of it in this form; the risk of personal data super-leaks; impossibility for states to have digital sovereignty; the fall of established academic and corporate norms, values, meanings of all levels of education (in the unity of translation and transfer of knowledge, intellectual and moral development, academic freedoms and professional duty); distrust of citizens interpersonal and institutional (in organizations), international (in other countries) and political (population in the state and system).

All these problems stem from the most significant ethical risk of digitalization - the decrease in the importance of a person in many processes and the likely disappearance in the future of a number of professions that robots will be better able to handle. Digitalization leads to »an increase in the distance between obviousness (digital reality) and adequate speculation«; to the disintegration of a person's identity and its »reduction to a profile ('digital person'), and the devaluation of the existing morality and ethics«.²³

Thus, digitalization sharpens the ethical risks already existing in high-tech industries and public life and introduces its own specifics into them. Increasingly, the focus of regulation of digital ethics is shifting from establishing a framework for the use of new technologies to managing their ethics at all stages of scientific and technological work and up to the implementation of solutions. Such an ideology presupposes an increase in user participation and

²³ Maria MANIKOVSKAYA, *Cifrovizacija obrazovaniya: vyzovy tradicionnym normam i principam morali* [Digitalization of education: challenges to traditional norms and principles of morality], *Vlast' i upravlenie na Vostoke Rossii* [Power and administration in the East of Russia], 87 (2019) 2, 100-106.

consideration of dominant social values, including through dialogue with civil society institutions. It is natural that in the short term, ethics will remain the most pressing issue of digital technologies²⁴.

Today, the ethical discourse on digitalization is a fusion of ethical concepts and new data on the impact of informative and communicative technologies on nature, man, society, and culture. Due to digitalization's novelty as a cultural phenomenon, its ethics are largely based on prior settings. However, at the same time, the originality of digitalization ethics is manifested in the search for not ready-made solutions, but precisely approaches that would, first of all, allow observing the principles of security and fairness. The growing fear of uncertainty caused by the pandemic, cases of terrorism, wars, and the impoverishment of large sections of the world's population has strengthened humanity in the need to strictly comply with these principles during digitalization.

In the era of globalization, most states generate security as a representative practice of society to prevent, suppress, mitigate, destroy threats (external, internal) and harm (caused to man, nature, society, culture); development of conditions for protecting the vital interests of the individual at different levels, including the use of information and communicative technologies.

The types of security threats associated with digitalization are extremely diverse and most acutely manifest themselves in the following ways:

- i. technical and economic (vulnerability of new digital systems, development and dissemination of problematic innovations, growth in electricity consumption, monopoly use of new technologies, Internet piracy and copyright infringement, disappearance and shrinkage of traditional markets, industrial espionage, digital inequality, cyber weapons, unemployment, decline in the level of social security);
- ii. sociocultural (pollution of the information space, children's access to dangerous information or contacts, transparency of private life, insufficient protection of personal data, computer addiction, loss of the ability to interpersonal communication, clip-like consciousness, virtualization of reality, fragmentation of society, weakening of democratic principles in management);
- iii. information transformation (data manipulation, spam, viruses, loss of information, violation of information integrity and confidentiality, unauthorized access, use of e-mail or mobile devices by unknown persons)²⁵.

²⁴ Shaping the digital transformation in Europe, *European Commission DG Communications Networks, Content & Technology Final Report*. Sep. 2020, 17. <https://ec.europa.eu/newsroom/dae/redirection/document/69479>.

²⁵ Maria POLOZHIHINA, *Vliyanie cifrovizacii na bezopasnost': ot individuuma do sociuma* [The impact of digitalization on security: from the individual to society], *Social'nye novacii i social'nye nauki* [Social novelties and Social sciences], 1 (2020) 1, 9-27.

A prerequisite, an indicator of the harm caused to citizens' security during digitalization is privacy²⁶. Privacy denial means the denial of individual subjectivity, value and ontopsychological autonomy, his right to freedom, dignity and self-respect²⁷.

Privacy, as the most important ethical problem of digitalization, is related with the need to accordance of the arrangement of processes and the use of informative and communicative technology products to human and consumer rights; with the concern of the world community about possible unauthorized access to data of representatives of different countries; with the unpreparedness of many citizens to trust someone with personal information.

As digital technologies expand and become more complex, privacy problems will escalate, revealing new ethical risks. Thus, fears that privacy ethics can turn into an ideology, in defense of the selfish interests of large software manufacturers (for example, Microsoft), have led to the active formation of privacy engineering since 2014. Privacy engineering is understood as a set of privacy technologies and ideas about product design, cybersecurity, human-computer interaction, avoidance of unacceptable consequences for people when processing data, as well as the business and legal aspects of ensuring privacy as an important technical and strategic factor in building trust and reputation²⁸.

The basis for the implementation of security and privacy principles in digitalization is the idea of fairness - the central regulator of social values. John Rawls argued that justice is »the first virtue of society institutions, just as truth is the first virtue of systems of thought«²⁹. Fairness in digitalization is associated, first of all, with the creation of an inclusive environment for users, ensuring the availability of opportunities, regardless of the characteristics of the person; equal access of citizens to the system; exclusion of discrimination or bias against various categories of people with disabilities; confidence in the conscientiousness of digital solutions. To create such an environment is the state's task. Many leading countries in digitalization development emphasize the need for equal access to technology. Inclusivity is a vital characteristic of any ethical digital service. It is absolutely necessary when providing public services or using public goods.

²⁶ Daniel J. SOLOVE, Conceptualizing Privacy, *California Law Review*, 90 (2002), 1087-1156.

²⁷ Lesya CHESNOKOVA, Pravo na privatnost' kak neobhodimyj aspekt chelovecheskogo dostoinstva [The right to privacy as a necessary aspect of human dignity]. *Istoricheskie, filozofskie, politicheskie i yuridicheskie nauki, kul'turologiya i iskusstvovedenie. Voprosy teorii i praktiki* [Historical, Philosophical, Political and Law Sciences, Culturology and Study of Art. Issues of Theory and Practice], 80 (2017) 6 (1), 196-199.

²⁸ Michelle DENNEDY, Jonathan FOX, Thomas R. FINNERAN, *The Privacy Engineer's Manifesto: Getting from Policy to Code to QA to Value*, NY, Apress, 2014.

²⁹ John RAWLS, *A Theory of Justice*, Moscow, LKI, 2010.

The unintended bias of digital services exacerbates the high risk of inequality, limited access to them by minorities and the poorest segments of the population. The risk of digital exclusion, when some social groups have limited access to technology, is one of the most critical. For these groups, widespread digitalization means either a complete loss of access to government and commercial services, or a significant decrease in their availability.

Such an effect is contrary to the objectives of the global transition to digital: to open up new opportunities, speed up and simplify processes; provide information that changes social, political and business processes and leads to a better quality of life.

When things and services are initially designed with different use cases in mind, a product, function, or option will be available to a person, even if his capabilities and needs change over time. If you design a service in such a way that it is accessible to people with disabilities (blindness, deafness, motor impairments), it will be suitable for many people in different life scenarios. When developing and implementing a system of various digital services, one cannot ignore the needs of citizens who, for various reasons (for example, technical (unavailability of services), functional (lack of digital literacy, unavailability of services due to health conditions)) do not have access to digital technologies.

The creation of new services should not increase the digital divide between producers and consumers, between different social strata. The way a digital service or other tool works should not create excessive risks and excessive burdens for citizens or businesses. Digital service recipients are often less digitally literate and less optimistic about digital technologies than the service developers and service officials who oversee them. The design of digitized procedures should be understandable and convenient: citizens faced with these procedures should not feel helpless. They should be able to study the arguments and evidence provided by the person about whom the decision is made. With the transition of public services to digital services, the importance of the human factor does not decrease, but increases. The provision of a specific service, including digital, should be the responsibility of an employee with sufficient authority. If there is no such employee, the client may fall into a «vicious circle» of referrals or be left alone in a closed cycle of automatic services³⁰.

Human-centricity is the right of everyone at any stage of the development, implementation or application of informative and communicative technologies by the state, to make proposals for the cancellation or prohibition of any actions or decisions about them. It is the state that should provide its citizens with the opportunity to use this right, fixing in the relevant documents the balance between the development of technologies and the protection of universal

³⁰ Olesya MITYAKINA et al., Dostupnost cifrovyyh technologiy i uslug dlya grazhdan [Availability of digital technologies and services for citizens], In: *Ethics and digital: ethical problems of digital technologies*, Moscow, RANEPa, 2020, https://ethics.cdto.center/6_2.

human values and humanity in general (it includes confidentiality, emotions, spontaneity, intuition, spirituality, etc.).

People must be confident in the conscientiousness of the digital solutions offered by the state.

»The concept of conscientiousness implies the reliability of the solution, its high quality, sufficient degrees of protection, etc. The consequences of interaction with a digital tool or service must be predictable. If user data is collected for a service, it should not be used for other purposes. For example, information about the place of residence submitted to government authorities for issuing electronic passes during a pandemic should not be used to punish those who live outside the place of registration«.³¹

Experts identify three approaches that developed countries use when addressing the ethical issues of digitalization:

- i. creation of regulatory and methodological documents describing the general principles for the development and use of digital technologies and individual rules that ensure the ethics of a digital product, such as data depersonalization, data quality control, openness of algorithms, and others;
- ii. creation of a specialized body (agency, committee, commission) authorized to provide methodological support in the field of ethics and control over compliance with ethical principles in the development of digital technologies;
- iii. stimulation (through encouragement or coercion) of ethical self-regulation of business – as a loop of preliminary control and / or conditions for the development of new approaches and norms³².

Each of these approaches solves the following tasks: overcome the digital divide between different social groups; provide an inclusive environment where access for people with special needs is provided at the design stage; provide human control of user interaction with the service; check the availability of online services; provide alternative options for accessing digital services.

When developing regulatory instruments, the traditional engineering and technical approach should not go by the wayside. Based among other things, on instrumental risk assessment, security, measurement and testing methods, it contains not only regulatory documents and codes, but also technical standards. Human-centricity has another dimension, namely, it requires an answer to the question of how human-oriented (user-oriented) is a particular technical solution.

³¹ Ibid.

³² Emmanuel PERNOT-LEPLAY, China's Approach on Data Privacy Law: A Third Way Between the U.S. and the E.U., *Penn State Journal of Law & International Affairs*, 1 (2020) 8, 49-117, <https://elibrary.law.psu.edu/cgi/viewcontent.cgi?article=1244&context=jlia>.

Thus, if we consider the »digit« not as a goal, but as a means of strengthening public welfare, then ethical issues turn out to be key to the successful implementation of any digital solutions by the state. When these questions are left unanswered, and the services that emerge from this careless digitalization do not take into account the principles of convenience, privacy, fairness, and human security, citizens develop a sense of distrust of the state and the system as a whole. And if government officials do not explain to citizens how their rights and freedoms will be guaranteed when digital solutions appear, distrust will only increase. Therefore, it is impossible to neglect ethics in digitalization. Ethics is directly related to trust, and trust is directly related to countries' and citizens' success in the long term. In the context of global upheavals, it is important for any state to have communications with citizens built in advance and based on trust, understandable and ethical; to study their requests, experience, behavior, emotions, perception of innovations; based on this data, discover approaches to building in-demand and human-centric digital services.

Conclusion

The global processes of information and digitalization, extrapolating utilitarianism standards into the world culture, have violated the traditional spiritual basis of a person's ethical ideas about himself and the world. The most significant component of culture, humanistic culture, turned out to be in ethical risks. Digitalization as an emerging socio-technical phenomenon, along with impressive new cognitive opportunities, has given rise to fundamental ethical risks: privacy, inclusiveness, security, trust, and fairness. Finding approaches to solving ethical problems and preventing ethical risks of digitalization is a way to establish a techno-humanitarian balance - to develop appropriate compensatory mechanisms (adequate cultural regulators) that counter the growth of destructive power of new technologies in relation to universal human values and humaneness. Maintaining a techno-humanitarian balance during digitalization is a guarantee of a transition to a completely new trajectory for culture development on a historical scale. The morally right decision in digitalization can only be the one that best respects the rights and freedoms of people affected by it. The key elements of the state system that implements digitalization should be a person's image and his ethics.

Svetlana A. Bezklubaya*
Ljudski i etički rizici digitalizacije

Sažetak

Potpuna komercijalizacija superproduktivnosti informacijskih tehnologija pretvara čovjeka u »trošak« napretka, obezvrjeđuje kreativnu snagu njegova duha, morala i etike. Stoga je predmet ovog istraživanja čovjek suočen sa sve većim etičkim rizicima uzrokovanim sve bržim procesima informatizacije i digitalizacije. Svrha rada je identificirati probleme etike i etičke rizike kao specifične i najznačajnije za digitalno društvo, pokazati glavne pristupe njihovom rješavanju. Identificirani su temeljni etički rizici digitalizacije: privatnost, inkluzivnost, sigurnost, povjerenje, pravda. Glavni pristup sprječavanju etičkih rizika digitalizacije je uspostava tehno-humanitarne ravnoteže ili razvoj odgovarajućih kulturnih regulatora (usredotočenost na čovjeka, prevladavanje digitalne nejednakosti) koji se suprotstavljaju rastu destruktivne moći novih tehnologija u odnosu na univerzalnu: ljudske vrijednosti i ljudskost. Metodološka osnova istraživanja bila je: etički diskurs konsekvencijalizma koji određuje glavni uvjet razvoja tehnologija za pronalaženje ravnoteže između rizika i koristi; kao i kulturno i filozofsko promišljanje. Teorijski zaključci sadržani u radu otvaraju nove mogućnosti znanosti da konkretizira praktične pristupe rješavanju etičkih problema i etičkih rizika ljudskog postojanja u eri digitalne transformacije kulture.

Ključne riječi: digitalizacija, digitalni jaz, etički rizici, inkluzivnost, usmjerenost digitalnih usluga na čovjeka, povjerenje, pravednost, privatnost, sigurnost.

(na hrv. prev. Georgy Tananykin)

* Izv. prof. dr. sc. Svetlana A. Bezklubaya, Nacionalno istraživačko sveučilište, Institut za inženjerstvo, ekonomiju i humanističke znanosti Moskovskoga zrakoplovnoga instituta, Odsjek za filozofiju, A-80, ГСП-3, 4 Volokolamskoe shosse, 125993 Moskva, Rusija; e-mail: bezkluba@email.com.