

# Features of Manifestation of Social Risks in the Conditions of Digital Economy

S.A. Strizhov

Institute of Business Studies  
Russian presidential academy of national economy and  
public administration  
Moscow, Russian Federation  
st.strijov@gmail.com

T.G. Bogatyreva

Graduate School of Public Administration  
Russian presidential academy of national economy and  
public administration  
Moscow, Russian Federation  
tabogat@mail.ru

**Abstract**— The article takes a systematic approach to the analysis of social risks in the digital economy. The attention is focused on changes, which in digital economy happen faster than in the real economy, and both positive effects and negative social risks and their consequences sooner become obvious. The authors highlight those dominant characteristics of the society status, which reflect the response to the manifestations of social risks in the context of the emerging digital technologies in various spheres of human life. The main concern is on the social risk in the processes leading to replacing the functions performed by people with digital technologies as this may result in widespread unemployment as well as difficulties of adapting to it. The article formulates possible provisions of mitigation of the effects of the appropriate social risks (introduction of the notional income for the duration of the adaptation period). The article reveals interdependence of social risks manifested at the macro level with the risks of human resources beyond of macroeconomic approach. Understanding of the problem in such a way made it possible to carry out a comprehensive vision of risk management, not limited to the economic point of view only.

In conclusion, the authors insist that prevention of risky events occurrence and reduction of their negative consequences as well as of the level of uncertainty for economic entities call for creation of intersectoral institutions for managing social risks. Activities of such institutions will be based on serious interdisciplinary study of the problem.

**Keywords:** *social risks, the digital economy, the conditional income*

## I. INTRODUCTION

Looking at digitalization exclusively from the perspective of analyzing its technological aspect would be unnecessarily simplified an approach. Digitalization is a process with implicitly dual character, which means that along with a wide range of opportunities there are also threats and disfunctions rooted in low living standards and highly differentiated population, its cultural and mental features, insufficiently effective legislative framework, absence of effective protection mechanisms, etc. The ambivalent nature of digital

processes also suggests a certain probability of the occurrence of certain events, i.e. risks [1]. It's worth mentioning that almost every achievement of the digital economy creates its own risks. This necessitates the systemic approach to digital economy and appropriate assessment of its risks and consequences.

Among those social risks and their consequences, the most traditionally discussed are the following: risks of changes in the labor market, including the disappearance of entire professions and industries and the emergence of new ones; risks of changes in the employment structure which may result in structural unemployment; new types of social inequality; problems of matching the quality of human capital and its preparedness to master digital technologies; unpredictable cross-border transfer of information; risks of loss in personal data or privacy (social tension).

Use of artificial intelligence in various fields of human activity together with massive robotization of production will lead to massive redundancies and increased unemployment, dilution of the concept a real person with their individuality and morality, due to would be “uselessness”, and this may lead to society losing balance, may violate the already existing social “harmony” [2]. In other words, there may be a risk of losing “reality”, or a social risk, characterized by the threat of social decline.

It should be noted that nature of social risks in digital economy is different from those of industrial economy. In the industrial economy, social risks are often unpredictable and difficult to foresee. Reasons for manifestation of social risks in those circumstances are primarily bankruptcies of enterprises accompanied by mass dismissal of workers, etc.

In digital economy, social risks take on a different nature - they are predictable and foreseen, if changes in the socio-economic environment due to the introduction of digital technologies at the same time are taken into account. It is now possible to more effectively manage social risks, compared to the industrial period. During the industrial era, social risks

affected mainly small groups of people. During digital transformation of the economy, the consequences of the manifestation of social risks will affect large groups of both working and non-working people, according to the experts' assessments of the situation. In the digital economy, changes occur faster than in the analogue economy, both positive effects and negative consequences, including social ones, show faster. That is why people involved with these fast changes cannot properly react to those changes in time, or adapt to them.

At the same time, the state plays an increasingly more important role and becomes more responsible for social risks prevention and for mitigation of their consequences in case of their occurrence, for the simple reason that it is the state in Russia that initiates and coordinates the implementation of the digital economy agenda.

## II. LITERATURE REVIEW AND RESEARCH METHODS

Risks, including social ones, are a widely studied research topic, both in Russia and abroad.

Back in 1992, Ulrich Beck, in his book *The Risk Society*, conducted analysis of modern society in which he emphasized how the production of wealth was systematically associated with the production of risks. The value of Beck's work was clarifying how the issue of whether risks existing in modern society are different from those of the previous societies (Beck, 1992) [3].

D. Curran investigated the diverse risks of digitalization, such as the risks of transformation of interpersonal relationships; of the increased potential AI threats on unemployment and inequality growth or risks generated by the specifics of the digital communication ecosystem itself. The aim of the study was to highlight key hidden links between the dynamics of innovation in the digital economy, on the one hand, and social risks and the scale of democratic decision-making, on the other hand (Curran, 2018) [4].

It is difficult to underestimate the importance of those studies that combine the development of digital technologies and the quality of life of people, as they give evidence that any approaches to studying the outcomes of digital disparity through subjective well-being are expanding into researchers' advocating understanding of subjective well-being in general as an important and necessary complement to existing indicators of the digital divide [5].

Russian scientists highlight the risks of increasing income disparity and social tension should the demand for technology (in particular, digital) significantly outstrip the educational system in terms of training the appropriate qualified personnel [6].

A group of scientists from the Samara State University of Economics (Russia) have investigated the ethical problems and risks posed by the Digital Revolution [7]. In particular, attention is drawn to changing confidentiality boundaries both in professional and private spheres, up to the point where privacy disappears altogether; the emergence of social problems linked to unethical use the opportunities created by

the digital revolution for commercial or political manipulations carried out by individuals or social groups; the risk of confidentiality and the introduction of total control systems. The research arrives at the correct conclusion that the socio-ethical problems of the digital economy are causing vital challenges and risks for human activity. They transform the moral standards and values of the modern social individuals resulting in radical changes in the educational system. Therefore, the socio-ethical aspects of the digital economy should become a special subject of theoretical consideration and the basis of modern scientific prognosis.

V. B. Betelin [8] looks at the problems of risks associated with digital economy in Russia from a very different perspective. He noted that the country does not have enough companies economically and socially equipped to be leaders in the global semiconductor and/or radio electronics markets; the scientist arrives at the correct conclusion that Russia can fend off the challenges and risks of forming its digital economy, instead, by creating economically and socially significant IT companies focused on the digitization of strategic sectors of the country's economy and claiming leadership in the world markets.

Exploring the specificity of social risks as they manifest themselves in Russia, experts are paying attention to the basic prerequisites that create the grounds for those risks. Particularly, the degree of informatization differs in the country from region to region; as a result, the country is divided into "informationally rich" industrial regions and "informationally poor" rural ones, those sparsely populated or inaccessible areas. Another factor to be taken into account is social disparity, manifesting itself in coexistence of social groups actively using information technologies with those with low income that cannot afford this due to lacking education and culture, absence of required skills, that are physically disabled or belong to old age groups [9].

The authors' review of foreign and Russian publications devoted to the problems of risks in the conditions of digitalization allows to conclude that scientists pay attention to the consideration of both economic and technological and social aspects of these risks. However, most often the attention is paid to the macro-level of these problems. At the same time, some aspects require a deeper understanding. First of all it is the reaction of the individual and – social groups to the social consequences of risks in the conditions of digitalization, as well as the activities of state institutions to minimize social risks and mitigate their consequences.

Consideration of the problem from the position of a systematic approach allowed the authors to carry out a comprehensive identification of risks and offer tools aimed at expanding the very dimension of risk management, as well as to focus on the need for serious interdisciplinary scientific study of the problem, although this is a very complex process, as foreign scientists warn [10].

Methods used for the purposes of this research included analysis, synthesis, comparison, and generalization; risks of the digital economy that negatively affect the development of human resources were categorized; there were identified those dominant characteristics of the various society status that

**TABLE I. TYPES OF STRATEGIES FOR THE ENTERPRISES OF THE AGRO-INDUSTRIAL COMPLEX**

<b>Dominant characteristics of social environment reflecting the response to manifestation of social risks in the context of the introduction digital technologies</b>	<b>Risks</b>	<b>Consequences</b>	<b>Methods of mitigation and prevention</b>
<i>Macrolevel</i>			
Social uncertainty	Risk of drop in living standards Risk of destruction of social institutions Risk of getting less than adequate education	Transformation of the labor market, of the employment structures, institutional transformations, changing the architecture of markets and business models	Active labor market policies, income support, continuing education and increasingly flexible educational systems.
Social tension	Unemployment risk Risk of social instability	Increasing unemployment, growing competition, exacerbating socio-economic inequality, social unrest	Social policy measures, private/public partnership
<i>Meso and micro level</i>			
Social anxiety	Digital alarm risk Cyberrisk Personal security risk	Self-isolation; digital addiction - increased loneliness, anxiety and depression.	Adequate media policy, legal regulation, ensuring information security of society
Social exclusion	Risk of social exclusion	Obstruction to social interaction, cultural exchange, declining economic efficiency	Appropriate social and cultural policy, youth outreach, opportunity of getting access to modern education
Social gaps	Digital split risk	Ground for social upheaval	Even development of digital infrastructure, alleviation of poverty, better education, social partnership
Social interaction	Risk of loss of social capital and social connections	Desocialization, deviant behavior, losing grounds for achieving economic, political and social goals	Developing digital literacy, training for habitation and living in digital environment

reflect the reaction to manifestations of social risks in the context of the introduction of digital technologies in various spheres of human activity.

### III. RESEARCH FINDINGS

Today we reflect on risk in a more social rather than technological or economic sense. There are practically no livelihood aspects free from social risks; they can badly affect individuals, society groups and the society as a whole.

Therefore, the following definition of this group of risks can be given: *social risks are risks of social origin arising in various spheres of human activity and carrying threats of negative consequences for the status and place in society for both individual citizens and for various social groups.* Digital transformation resulted in complex changes in the system of social risks. The manifestation of some old types of social risk is minimized, new areas appear in which risks are exacerbated.

In order to categorize those risks of the digital economy which negatively affect the development of human resources, we shall define the following dominant characteristics of the social environment that reflect the response to manifestations of social risks in the context of the introduction of digital technologies in various spheres of human life (see Table I):

a) manifesting at macrolevel– social uncertainty and social tension;

b) found beyond macroeconomic approaches – social anxiety, social alienation, social gaps and social interaction.

These factors, occurring periodically under the ordinary conditions of human and social life, would intensify in the conditions of digital transformation and entail a significant deterioration in the quality of human capital, entailing a lag in working capacity, training, in the ability to generate innovations, and in general economic lag.

Social uncertainty is associated with the digital format of the economy transforming the labor market and employment structures, causing institutional changes (transformation of corporate and public administration, increasing contradictions between formal and informal institutions in the network), leading to changes in market architecture (new labor division system), in existing business-models (such as use of digital platforms, disappearance of intermediaries, speeding up and standardization of services, uberization of various areas of activity). As a result, the business entities, also management structures and individuals do not have chances to adapt to the challenges of the digital economy, this is often due to the fact that they do not receive such an important prerequisite as modern education which would adequately respond to new challenges.

Social tension shows itself in rising unemployment, professions substitution, in situations when groups of people are compelled to engage in activities that are not their

profession or for which they don't have proper qualifications; at the same time, competition becomes increasingly intense in all areas of activity, there are emerging risks of disappearance of professions or even whole industries; at this background calls for risks of aggravation of socioeconomic disparity.

Social anxiety in the context of digitalization is acquiring some specific features and brings the risks of digital anxiety, cyber risks, and personal security risks. Anxiety is triggered through using trolling technology in the media sphere; paranoia about digitalization takes forms of irrational attitude to Internet; data leakage, lacking privacy, lacking sanctity of private life, spying.

Anxiety in people is increasing as the authorities introduce personal digital identity for all citizens, though it shouldn't worry anybody living in the digital age. The consequences of these risks stem from self-isolation or digital addiction that contributes to increased loneliness and depression.

Social exclusion in the digital economy is related to further life individualization and social degradation and entails the depletion of human resources, the degradation of natural intelligence, manifested, in particular, in mosaic thinking, intellectual dependence on technology, blurring of distinction between reality and virtual reality and formation of values and needs based on digital patterns. The manifestations of the risk of social exclusion interfere with social interaction, cultural exchange and reduce economic efficiency.

Social divides in the digital age are transforming into digital divides - divides in digital education, divides in terms of access to digital services and products, and, therefore, a divide in standards of well-being. The risk of digital split, not less than high difference in income, creates the ground for social upheaval. Foreign scientists show the growing interest to these matters as the whole world is facing the consequences of the digital divide, this often becomes a subject of critical reflection, especially in digitally advanced countries [11].

It is important that in the dominant area of social interaction the digital environment creates a new digital reality, changes the social structures, lifestyle, values and people's identity which separates from its original ground, i.e., local connections and cultural traditions. It affects the very nature of the relationship, actuating the growth of the generation gap (between digital natives and digital migrants). And this is despite the fact that "it is natural for human nature to create interpersonal relationships. People are social creatures living in groups (such as families, tribes, settlements, towns); these groups tend to increase in size during the evolution"[12]. In the context of digitalization, there is a risk of losing social connections and social capital. The consequences of such a risk are desocialization, loss of shared values, manifestation of deviant behavior, entailing the loss of human resources to achieve economic, political, social goals.

The risks discussed above risks are widely spread, they cannot be completely excluded, and can be prevented only by means of the partnership interaction between various management entities. Digital risks can be managed using the following tools and instruments:

- legal regulation aimed at achieving safe use of digital technology;
- even development of digital infrastructure, with equal access to it;
- adequate sociocultural, media and youth policies;
- development of digital literacy, training of habitation and living in digital environment.

#### IV. DISCUSSION

Minimization of risks and their prevention need to be discussed in terms of the impacts of digitalization on the labor market and on society in general as well as of the clear understanding of the goals of the digital transformation. The representatives of the Russian business and government are confident that the challenges of the development of the digital economy are primarily related to the multiple uncertainties for those who have switched to digit. Here at play are the technological changes, staffing issues, politics and the need of colossal investments in infrastructure[13], which is quite a problem for Russia, and many other countries.

It is obvious that for the digit to raise sharply the effectiveness in various sectors of the Russian economy, there should be the prerequisites for the increase of the labor productivity and the removal of the risk of the large-scale unemployment. Lately there was a warning from K. Schwab, who in his book *The Fourth Industrial Revolution* noted that about 47% of jobs in the USA are associated with the risk of automation, most probably, during the two next decades which will be characterized by a wider range of professions being destroyed much faster than in the process of shifts at the labor market, that have occurred during the previous industrial revolutions [14]. According to the McKinsey Global Institute, in the world by 2036 will be automated up to 50% of work processes. This will lead to significant redundancies, reduction of semi-skilled jobs, and greater wage difference [15]. The Russian scholars and experts have repeatedly stated this situation through the media. In particular, they argued that the introduction of digital technologies in the sphere of public administration will lead to significant civil service reductions by one third over 6 years, and in fact 700 thousand people will lose their jobs [16]. According to another data source in the near future about 3 million Russians will be out of work due to new technologies [17].

It is logical to assume that in the case of dismissal of workers due to measures taken by organizations and companies within the state program "Digital economy" it is the state that in conjunction with business must develop and launch a compensatory mechanism. Though scholars and practitioners sometime encourage the people to independently solve their employment issues, in reality these problems cannot be solved without the aligned and concerted actions of the Government and businesses.

The program "The digital economy of the Russian Federation" provides for creation of a state system of incentive payments (an individual digital voucher from the state) for the training of children and adults in the competencies of digital

economy (p. 2.10.1.) and the introduction of a system of benefits for the companies that train and hire citizens with the basic competencies for the digital economy (p. 2.11.1.) [18]. However, at a closer look it appears that the state is going to limit itself to half measures for solution of a serious social problem. It should be recognized that a digital voucher for professional retraining will not reach its goal if there is no clarity in the prospects of job placement of the people in line with the profile of retraining. But even in condition of creation or finding the jobs for new professions there a problem of transition period: the voucher provides the opportunity for retraining only, while there remains an open question at what expense the family of a fired employee will provide its primary life necessities during his retraining and up to his new employment [19].

The authors believe that to get the expected result with the help of an individual digital voucher, the state must build up a clearly defined system of alignment and interaction between the structures of Ministry of Labor, Ministry of education and science, local authorities and employers.

It should be noted that many developed countries seek ways to provide social support to nationals who have lost their jobs and it is related not only to the digitalization processes. First of all the concept of the *Unconditional basic income (BOD)* deserves attention, offering to all nationals the benefits without particular reasons. Another step in this direction is the robot tax debated in some countries.

In Russia the idea of an unconditional (or basic) income would have limited relevance as due to the mentality of the most people this step can lead to creation of a broad social strata of deadbeats content with the welfare benefit and not seeking employment.

In the opinion of the authors, it may be useful to refer to the idea of introduction of the *Conditional income of the adaptation period (UDAP)*, which must not focus on the goal of material support of the temporarily unemployed due to dismissal on the grounds of digitalization, but rather serve as an incentive for the search of a new job. The amount of UDAP should be set within 75 % of the workers' income prior to their dismissal, but it should be paid only to those who have agreed to have a professional retraining within the retraining program passed jointly with the Government bodies, employers and educational institutions (a sort of state order for training of personnel both for the digital and analog economy). The introduction of UDAP is a rather complex procedure, that requires a methodological, organizational and - most important - financial study. To accumulate the means for payment of UDAP, it may be useful to create the National Fund of conventional income of the adaptation period, with two sources of its capitalization: budgetary funds, allocated on the basis of serious weighted calculations, made with the account of the monitoring of the labor market, and also the funds formed from the payments of those organizations and companies of the non-budget sector that have reduced their personnel due to automation, robotization and introduction of other digital technologies.

The suggestions made by the authors are in line with the opinion of the Nobel prize-winner in economics D. Stiglitz,

who believes that “changes brought by globalization and technologies require significant movement of workers through sectors and jobs, and the markets alone cannot cope with these changes. To provide a situation where there are more winners and fewer losers, the state should play a more active role. The workers will demand active help during transition from the job they are losing to the new jobs being created. More investments in education and technologies will be required to make the new jobs as good as the lost ones” [20].

While pondering macroeconomic phenomena, let's not forget that the hope that the digit will drastically improve effectiveness in various sectors of economy and social area, may be justified only if we overcome a complex threat of a lost generation of people who due to technological changes will not be able to be retrained, and will be subject to inequality, impacts of social tension, social exclusion and alienation due to digital transformation. As long as Russia can “create” a human capital, but conditions for its self-realization are quite modest and therefore the human capital “blows away”. One again we must note that the Russian state puts a high stake on the digital development, but the vision of the future sometimes prevents to focus on the risk phenomena of today. Nevertheless, the digitalization risks will not disappear by themselves, they require a systematic approach, the united efforts of various subjects and actions in various areas. To minimize disruptions and maximize benefits, it would be necessary to adapt the digital policy to the phenomena in the labor, educational and cultural areas, to focus the joint efforts on overcoming inequality and provision of competition in new realities. It requires a complex approach that attracts attention to a much bigger number of risks and offers much more instruments enhancing the human dimension of the risk management.

## V. CONCLUSION

The authors' actualization of an integrated approach to social risks in the digital age, is generally important for the study of maximizing the effect of the emerging digital space and building partnerships with those who have chosen the path of digital transformation.

Russia has an important task to create an effective system of division of labor and industrial cooperation within the framework of the Eurasian economic Union, as well as the principles of combining the Russian “Eurasian integration” and the Chinese “Silk Road”. In general, the development of integration processes in each of the States may be constrained, on the one hand, by the fact that supranational cooperation within associations does not reach the necessary depth, on the other – by internal economic, technological and social problems and existing risks. The digital agenda accelerates integration processes and allows to solve wide problems – institutional, personnel, educational and structural – more effectively within the framework of regional transformation. But at the same time new risks appears, including social ones. Preventing the occurrence of risk events and reducing their negative consequences, as well as reducing the level of uncertainty for economic entities operating in the digital economy, can be achieved by creating interdisciplinary

institutions for managing social risks and synchronizing their activities at the national and interstate levels. However, these issues today require a separate scientific analysis and interdisciplinary study.

#### REFERENCES

- [1] O. I. Vodyanenko, "Determinants of social risks of the digital economy", *Science and society*, 2019, no. 1 (33), pp.7–11.
- [2] I. V. Sudarushkina and N. A. Stefanova, "Digital economy", *Azimut of scientific research: Economics and management*, 2017, T.6, no. 1 (18), pp.182–184.
- [3] U. Beck, "Risk Society: Towards a New Modernity", London: Sage, 1992.
- [4] D. Curran, "Risk, innovation, and democracy in the digital economy", *European Journal of Social Theory*, 2017, 21 (2), 213 p.
- [5] M. Buchi, N. Festic, and M. Latzer, "How Social Well-Being Is Affected by Digital Inequalities", *International Journal of Communication*, 2018, 12, pp. 3686–3706.
- [6] E. L. Yakovleva, N. S. Seliverstova, and O. V. Grigorieva, "Concept of electronic nomad: risks of digital economy development", *Actual problems of Economics and law*, 2017, vol. 11, no. 4, 236 p.
- [7] A. Guryanova and et al, "Socio-ethical Problems of the Digital Economy: Challenges and Risks", S. Ashmarina et al. (Eds.): *Digital Transformation of the Economy: Challenges, Trends and New Opportunities*, 2019, pp. 96–102.
- [8] V. B. Betelin, "Challenges and Opportunities in Forming a Digital Economy in Russia", *Herald of the Russian Academy of Sciences*, 2018, vol. 88, no. 1, pp. 1–6.
- [9] I. E. Zhadan, "Social risks in the digital economy", *Humanitarian scientific journal "PARADIGM"*, 2018, no.1, pp. 20–26 [Electronic resource]. Available at: <https://niiparadigma.ru/hsjournal>.
- [10] N. Luhmann and D. B. Risiko, In: N.Luhmann, "Soziologie des Risikos", Berlin; New York: Walter de Gruyter, 1991, pp.9–40.
- [11] K. H. Mok and D. Leung, "Digitalisation, educational and social development in Greater China", *Globalisation, Societies and Education*. September 2012, vol. 10, no. 3, pp. 271–294.
- [12] E. McAfee and E. Brynjolfsson, "Machine, platform, crowd. Our digital future", Transl. A. Ponikarova, M.: Mann, Ivanov and Ferber, 2019, 110 p.
- [13] V. Shustikov, "Digitalization in the era of aggressive uncertainty" [Electronic resource]. Available at: <https://sk.ru/news/b/press/archive/2018/05/26/cifrovizaciya-v-epohu-agressivnoy-neopredelennosti.aspx>.
- [14] K. Schwab, "The Fourth industrial revolution", M.: EKSMO, 2016.
- [15] "Digital Russia: a new reality", July 2017 report of the expert group Digital McKinsey [Electronic resource]. Available at: <http://www.mckinsey.com/global-locations/europe-andmiddleeast/russia/ru/our-work/mckinsey-digital>.
- [16] "Kudrin predicted the dismissal of 700 thousand Russians" [Electronic resource]. Available at: [https://news.rambler.ru/economics/38391397/?utm\\_content=news&utm\\_medium=read\\_more&utm\\_source=copylin](https://news.rambler.ru/economics/38391397/?utm_content=news&utm_medium=read_more&utm_source=copylin).
- [17] "Three million Russians will lose their jobs soon" [Electronic resource.]. Available at: <https://e-xecutive.ru/finance/novosti-ekonomiki/1987535-tri-milliona-rossiyan-lishatsya-raboty-v-skorom-vremeni>.
- [18] "Program "Digital economy of the Russian Federation"", Approved by the Order of the Government of the Russian Federation of July 28, 2017, no. 1632-R, 41 p. [Electronic resource]. Available at: <https://government.ru>.
- [19] S. A. Strizhov, E. A. Bogatyreva, and T. G. Bogatyreva, "Transformation of public administration in the conditions of new challenges: Monograph", Moscow: Prospect Publishing House, 2018, 134 p.
- [20] D. Stiglitz, "The Price of inequality. The stratification of society threatens our future: [translation from English]", Moscow, Publishing House "E", 2017, 353 p.