

Human and Technological Progress Towards the Socio-Economic Paradigm of the Future

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Elena G. Popkova and Artem Krivtsov

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Human and Technological Progress Towards the Socio-Economic Paradigm of the Future



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Introduction

The combined problem of the digitization of the economy, the digitization of humanity as a whole and human existence in time and space as a subject has been actualized in recent times. Indeed, the projects of the future world economy are inextricably connected with the achievements of scientific and technological progress linked with global social and economic transformations at the system and intersystem levels.

Nevertheless, the question of urgency and the imminent necessity of these events arises. Is this process so necessary for modern Russia and other countries of the globalized world and what is its impact on the economic and social life of socio-historical organisms? Back in the early 2000s, Robert Solow, winner of the Nobel Prize in Economics, wondered how the introduction of information technologies had an effect on the growth of labor productivity in various industries. The USA gave the answer – the staff of their Bureau of Statistical Analysis found out that the bi-factor productivity did not increase in any of the branches of the American economy, except for one – computer production. At the same time, there is a steady trend towards a decline in labor productivity and capital in the economy as a whole. In addition, the problem of universal access to information due to global Internet networks plays a less positive role in creating a favorable background of social comfort in the population of the countries of the global world. The standard of living of the notorious “golden billion”, formed in the late 1950s and early 1960s due to the introduction of innovative technologies in all possible industries and a sharp jump in bi-factor productivity, is still not achievable for the remaining almost 5 billion people using all sorts of “Gadgets”. This leads to the inevitable growth of social tension . . . Against the background of the “failures” of the modern socioeconomic system, some projects are offered to get out of this situation. Not all of these projects and proposals are unequivocal. Consequently, the outcome of their implementation is the same.

In modern society, it is very difficult for a person to manifest his or her creative purpose. The consumer function of administration has become the embodiment of life ideals, aspirations, ambitions, social significance and status weight. The problem of human creative and generative self-realization and realistic realization of ideas in the economy of the future has faced the present society.

Today, the variants of the future society are mostly drawn archaically harshly. However, we should not forget that, in accordance with the already established views, the acceleration of economic growth over the past 200–250 years of human existence was caused by three successive scientific and technical revolutions (STDs). The world is on the verge of the fourth. The West has always independently carried out technological “breakthroughs”, relying on all sorts of incentives: trade and production incentives, financial advantages, better conditions for the functioning of capital, as well as global integration. Moreover, Russia has always been able

to choose the path of forward-pragmatic-rational-emotional movement, which is able to bring out not only her and her satellites, but the rest of the world from the dimension of non-existence . . . In addition, if the future takes place, it will go along the development trajectory emotionally – an intuitive relationship space, remembering, of course, the ratio . . .

This volume is about these major trends in the development of humanity, society and economy.

This first part is devoted to the social consequences of digitization. The authors determine the problems, substantiate the perspectives, and offer applied recommendations for determining the role of human in the modern digital society and its adaptation to the conditions of Industry 4.0. The scientific concept “homo digital” is developed, and the essence of its formation in the process of evolution of “homo economicus” is studied. In addition, the transition from the post-industrial to information society is considered. A socio-technical environment in which modern human functions are modelled, and the challenges in this environment are determined.

The authors show that in the context of the digital economy the problem of economization (commercialization) of non-economic (non-profit) spheres and types of economic activity becomes more urgent; they are analyzed through the prism of the Theory of time in economics. Based on this, the increase of the influence of the consumer society on the modern social environment is shown. The key role of human capital in formation of a new quality of economic growth in the digital economic environment is substantiated, and transformation processes in the structure and practice of application of human capital are analyzed. The idea of social justice is reconsidered through the prism of digital society as a social environment with equal opportunities but different competences and motives.

Attention is paid to the modern Russian practice of the influence of the digital economy on society on the whole and on each human being. Scientific and methodological recommendations for indicative evaluation of the quality of economic growth in the conditions of digitization of Russia’s economic system are offered, and the specifics of the problem of socio-economic differentiation of the Russian population in the conditions of technological progress are shown. Based on this, it is proved that the digital economy has a contradictory influence on society, increasing the accessibility of goods and services, in particular hi-tech ones, but also causing an urgent need for adapting to the new economic conditions. This adaptation is largely determined by the capabilities of people, the flexibility of their thinking, and their ability for learning and development. Thus, instead of the expected provision of balance of society, its disproportions could grow in practice. Also, specific features of regional migration in modern Russia in the context of digitization are determined.

The role of emotional intellect in the formation of the critical thinking of a company’s employees is indicated. Because of this, it is shown that the so-called “human factor”, which is traditionally treated as a source of economic risks and

costs, acquires a new role in the conditions of the digital economy – a source of value creation and reduction of risks of technological progress, due to justified opposition to unfavorable changes. Informal labor relations based on digital communications, as the highest form of evolution of these relations that is achieved in the conditions of Industry 4.0, is considered. The central role of higher education in the process of social adaptation to the conditions of Industry 4.0 is outlined. The economic and legal issues of the digital economy are considered – in particular, the issue of democracy in the digital society in the conditions of e-government.

For a better understanding all Russian sources have been translated into English. The responsibility lies with each author.

Marina L. Alpidovskaya and Elena G. Popkova

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Elena E. Nikolaeva, Alla B. Berendeeva

1 Man as an Element of the Economic Mechanism of the Information Society in Modern Social and Economic Theories and Concepts

Introduction

Modern society is characterized as the information society, as the digital economy. When writing about the digital economy, the authors mean the system of network relations between economic entities on the production, distribution, exchange and consumption of goods, based on the use of information technology and the possibilities of the Internet. In such an economy, information is a part of productive forces, which also changes other elements: the means of labor, the technologies used, the forms of organization of labor and production, the person him or herself. Informatization of modern society and the digital transformation of the economy requires rethinking many established theories, economic categories (including economic mechanism, along with a variety of flexible forms and methods of management), their compliance with the changing conditions of economic development and the nature of tasks (Thought, 1986, p. 3).

The economic mechanism does not exist outside the technological and economic activities of people within the framework of social reproduction, which has a multi-level nature of the structure. Therefore, a person acts as an active element of a complex multi-level economic mechanism of society through economic relations, in which people enter into the process of social reproduction, interacting with other elements of productive forces (technical and economic, organizational and economic, social and economic relations). As noted by L. I. Abalkin, “human activity, including in the management process, is socially determined, it is always determined by objective factors. But it does not imply unambiguity and stereotyped behavior. A person as a subject of social development (and a subject of management) is always faced with the situation of choosing one or another line of behavior, making a certain decision” (Abalkin, 1986, p. 219–220).

Any decision made by people at different levels of the socio-economic system is based on the analysis of available information. At the same time, the economic mechanism of the company itself appears like a carrier and processor of a huge amount of information. It is necessary to solve problems with uncertain conditions

in which actions in accordance with a template will not promote the progressive development of the society. Therefore, human economic behavior can be used to reveal the essence of the economic development of the society.

Methodology

Before we talk about the person in the system of economic mechanism it should be explained what we mean by this mechanism. In a broad sense, we can say that it is a system of dialectical interactions, spontaneous and consciously regulated economic relations between people which act as a set of tools and projects that ensure the movement of subjects and objects. This movement occurs partly in the order of self-development, partly under the influence of external regulatory influence.

We proceed from the fact that the general goal of economic development is the person whose level and quality of life is considered as the starting point. One of the tasks of the modern economic mechanism is to activate human activity, the direction of its efforts to develop and implement innovations, the technological base of which is information technology. To implement the proposed task, it is necessary to rely on socio-economic theories and concepts that reveal various factors that affect the economic activity of people, their behavior and the adoption of certain decisions.

In the second half of the 20th century, scientists from different countries actively developed the concepts, reflecting the increasing role of the person in social reproduction, that are *a theory of human capital*, *the concept of social resource*, *social capital*, *human factor*, *human resources*, *human potential*, *social capital*, *theories of “an economic ethical person”*, *“an information man”*, *“an innovative person”*, etc. These theories and concepts interact and complement each other, express different structural and functional aspects of the person at all levels of management. The development of these theories is associated with social changes in society, the causes of which were the progress in the development of science, engineering and technology, the development of production and the growth of the productive forces of society, the complexity of the structure of the society, ever-growing needs of people, contradictions and conflicts over the distribution of various resources between social groups and layers of society, increasing the importance of the environmental component of life, etc.

These theories and concepts reflect current trends in the development of science. They are interdisciplinary knowledge, combining economics, sociology, psychology, management. This is reflected in the fact that various authors speak a lot of socio-economics as an interdisciplinary science, an academic discipline in the scientific literature (Shabanova, 2006, 2010; Shulus, 2008; Surin, 2009 etc.). We are methodologically based on the system-reproductive approach, the symbiosis of

political economy and institutionalism, interdisciplinary interaction of economics, sociology, ecology, psychology, the unity of economic, social and spiritual spheres of social life. These methodological approaches have been effectively used in our other studies (Berendeeva, 2006, p. 152–182; Babaev and Nikolaeva, 2017; Babaev and Berendeeva, 2018; Nikolaeva, 2012).

Results

Theories and concepts of human understanding and research that have developed in modern Russian and foreign literature can be considered in the context of the goals and objectives of the economic mechanism of the society, management at various levels of the socio-economic system, including the municipal level. Significant investments are required in modern conditions for infrastructure development of territories, including the construction of social facilities, to improve the quality of life of the population in small settlements. But if there are not always enough material and financial resources, then there are huge social resources, which, unlike material ones, are inexhaustible. They tend to multiply with the development of the society, forms of self-government, the creation of innovative products, services, change of the person in the process of communication with other people, self-education, self-realization of the creative abilities, the formation of civic consciousness.

In this regard, attention should be paid to the *concept of social resources and social potential* (Makasheva and Kalinikova, 2002; Maltsev, 2006; Semchenko, 2012 etc.). Social resource refers not only to labor resources, but also to the totality of the relationship between man and business, not only within the production enterprise, but also outside it (KnoRus et al., 2006, p. 3, 30, 33); reserves of creative energy of the individual (social, cognitive, activity ones), social organization and society as a whole (community of people, organizations, institutions, social groups) (Makasheva and Kalinikova, 2002). An urgent task today is a problem of disclosure of all the possibilities of this huge potential of both an individual and social organizations, the use of powerful energy of social resources in the creative direction. Such concepts as “*social activity*”, “*social well-being*” are close to the category of “*social resources*” in their *content and logic*. The following directions can be identified in the issue of the development of social potential: preservation of human health, the functioning of educational and cultural institutions, social protection of certain groups of the population, educational and patriotic work with young people. For the implementation of the above tasks, coordinated interaction of both local self-government bodies and public authorities and public organizations is necessary. The volunteer movement, the activities of various public organizations, charitable foundations can be given as an example of the successful implementation of social resources. Such structures operate on

the basis of self-development, internal motivation, besides, they are supported by government agencies at various levels.

In the early 2000s academician D. S. Lvov put forward the idea of moral economy, which suggests that economic and other decisions are made taking into account the humanistic component, “an ecological man”, “a moral personality”, a man with developed moral qualities, open to interethnic communication is formed in the society (Lvov, 2004). Thus, there is an acute problem of environmental pollution by plastic debris of the earth’s surface and the oceans in Russia. It is widely described in the literature. Various solutions to this problem are offered – collection and recycling of plastic waste, replacement of plastic materials difficult to decompose with ones, which are similar in their properties, but subject to rapid decomposition, the transition to the use of paper bags instead of plastic packaging, and so on. But one thing is clear: these problems cannot be solved by market mechanisms, since all these methods require additional costs for the construction of new production complexes, lead to a rise in the cost of consumer goods (paper packaging is more expensive than plastic), etc. There is a need for serious state support for science in the development of new materials, entrepreneurship in the field of waste collection and processing, other measures of industrial and environmental policy, but the main thing is to educate an environmentally responsible, moral person who cares about the preservation of nature. The designated problems cannot be solved without taking into account this side of the case and without the formation of the appropriate environmental behavior of people.

Many modern researchers focus on the development of spirituality, education, the socio-cultural dominant. In this regard, the models of the “psychological”, “social” and “sociological man” are offered as an alternative to the model of the economic man in the literature. Thus, the *concept of “the ethical economic man”* justifies the ethics of the economic choice and the motivation of the behavior of a business entity (Rodionova, 2006). The proposed model is intended for practical application in the structures of management systems and macroeconomic regulation of socio-economic processes.

The increasing importance of the human factor of development in modern conditions is linked to the fact that the opportunities for choice are expanding in the information society and, consequently, the responsibility for the quality of decisions is also increasing. This leads to the emergence of the *concept of “an information person* who is distinguished by the presence of an increasing information need and a certain dependence on information” (Orlova, 2010, p. 214) from various gadgets. The modern man is *a network man* who is included in many networks which are independent entities that form the inherent thinking and behavior of its participants.

There is a change in human qualities (it is necessary to have competencies in the field of new technologies, to be an expert in their field, to quickly learn and implement new solutions), the transformation of the labor market (the growth of

the need for highly qualified personnel, employment opportunities for persons limited socially or geographically, a change in the structure of employment in the direction of new competencies, etc.). NTP leads to a change in the position of the employee in the system of social reproduction due to the fact that intellectual work is put forward at the forefront as a combination of education and science (“intelligence of the nation”). Thus, the driving force is not just labor, but innovative labor (the literature refers to the “*the innovative man*”) (Islamutdinov and Shangaraev, 2011). Factors of activation of innovation at the enterprise level are: “creative freedom delegation of the part of the administrative powers to personnel, the increase of liability, professional and psychological readiness to change (the subjective quality of the person: adaptability, susceptibility to innovation), the collective nature of work (competition and mutual assistance, mentoring), proactive leadership (feedback between management and staff), the humanization of working conditions and relationships” (Shangaraev, 2013: p. 16–17).

The theory of human capital is still relevant (Verenikin, 2005; Dobrynin, Dyatlov, and Kurgansky, 1999; Dyatlov, 1994; Ivanov, 2004; Mayburov, 2004, 2006; Shchetin, 2001). This theory implies the need for significant public and private investment in human development. This approach is implemented in practice. In particular, *the index of human capital per capita* (calculated by the Bureau of labor statistics, USA) expresses the level of costs of the state, companies and citizens on education, health and other branches of social sphere counting per person (Dovbenko and Osik, 2011).

The development of the theory of human capital is related to the concept of “*human potential*”, taking into account all the peculiar features of an employee (from values to health), affecting the efficiency of his work (Sen, 1996, 2016; Coleman, 2001). *The concept of human potential* is directly related to the topic of improving the economic mechanism. The theoretical foundations of the study of human potential were laid by W. James, J. Moreno and A. Maslow (James, 1902; Maslow, 2008; Moreno, 2001). As noted by O. I. Ivanov, W. James made a program of research on human potential, which provided the development of methods designed to stimulate effective activity. A. Maslow is the founder of the modern psychological approach to human potential, the creator of the concept of “peak experiences”, that is a state of man in which his capabilities are activated (Ivanov, 2014).

There are different opinions about the structure of human potential in the literature: “the stock of physical and moral health, general cultural and professional competence, creative, entrepreneurial and civic activity accumulated by the population, realized in various spheres of activity, as well as in the level and structure of needs”, “health (physical and spiritual), ensuring the general viability of a person; readiness for family life and upbringing of children; knowledge and skills”; “adaptability to social infrastructure; cultural and value orientations and psychological competence”; “health, abilities of people, values and spirituality of citizens, their activity” (see Ivanov, 2016). T. Zaslavskaya believes that human potential is “the readiness and ability of the national community to active self-development, timely

and adequate response to multiple challenges of the external environment and successful competition with other societies”. The main components of human potential are socio-demographic, socio-economic, socio-cultural, activity ones (Zaslavskaya, 2005).

The theory of human capital is complemented by the original *concept of the individual, society and the state*. This social theory was developed by I. Larionov. The essence of it is that the measure of all social processes is a creative and creative potential, and “the criterion of positive social dynamics and social activities is the extent to which society creates conditions for the disclosure of the creative process in individuals and to what extent society provides an opportunity for each individual to find his place, adequate disclosure of its creative potential” (Larionov, 2001, p. 11, 13–14). This theory is the result of a systematic study of social processes in Russia, and the methodology is consistent and systematic accounting of the trinity of economic, social and spiritual spheres.

The theory of social capital is *being further developed*. This theory allows “overcoming the main contradictions between “labor” and “capital”, increasing labor productivity and revenue of companies” by facilitating to the redistribution of the part of the company’s income in favor of hired personnel (financing of the company’s social policy, participation of employees in profits) (Sysoev, 2015). The concept of social capital was introduced into science by French sociologist *P. Bourdieu* in the early 1980s. The 20th century for the quantitative and qualitative characteristics of social relations of society (Bourdieu, 2002). The term capital here reflects changes in the society that have the properties to persist and accumulate for a long time. Social capital, like other types of capital, acts as a resource, but unlike, for example, financial capital, it is accumulated, maintained, multiplied and expands, deepening social interaction between people. In the future, this concept has become a measure of humanity of society, as a kind of value. The researchers note that this type of capital promotes the spread of knowledge and innovation, forms the norms of trust and determines the behavior of people in the society. Countries that have a high degree of public trust are characterized by political stability, stable economy, low risks of social conflicts.

This theory is close to the institutional direction in economic theory, as the presence of public institutions, social networks, associations, laws, generally recognized norms, rules, which subordinated life in civil society; trust between different social structures, which is closely related to ethics, morality are identified as indicators that allow assessing the state, trends in the development of certain aspects of the social capital. All this echoes the above-mentioned concept of ethical economic man and the theme of moral economics.

The success of a country’s development depends on the nature of its national social capital. *The concept of national collective capital* was formulated by the German economist F. List in the middle of the 19th century. It is closely related to the theory of social capital. F. Fukuyama’s *idea that any society needs social capital*

at the national level is widely known (Fukuyama, 1999). The motivation of the individual, business and government representatives is necessary for the socio-economic development to actually take place. Russian society on the part of national well-being does not have very good characteristics, but it still preserves features of passionarity. (Passionarity is the activity manifested in the individual's aspiration to the goal (often an illusory one) and in the ability to overstrain and sacrifice in order to achieve this goal.) Passionarity of the nation is determined not only by the motivation of material interests but also by spiritual values, patriotic ideas, high goals that can really move people. There must be an idea of pride for the country. A strong social state, which activities are aimed at ensuring well-being for all, improving the level and quality of life of the population, the development of science, education, sports, health, culture, etc. can become such a great idea.

Conclusions/Recommendations

Summing up, we will present the concepts and theories considered in Table 1.1 and outline the main directions of their practical application to increase motivation for human economic activity as an element of the economic mechanism.

Table 1.1: Modern theories and concepts devoted to man as an element of the economic mechanism.

The name of a theory or a concept	Main areas of application
1. The concept of social resources, social potential	The main directions of development of social potential: preservation of human health, the functioning of educational and cultural institutions, social protection of certain groups of the population, educational and patriotic work with young people.
2. The concept of the moral economics	Economic and other decisions are made taking into account the humanistic component, there is a formation of the “ecological man”, “moral personality”, a man with developed moral qualities, open to interethnic communication in the society
3. The concept of “the ethical economic man”	With the introduction of the model of the ethical “economic man” in the structure of management systems of organizations, the latter will acquire the status of institutions of ethical and legal cooperation of all persons interested in the economic activity
4. The concept of the “information man”	There is a change in human qualities, competencies, the formation of a network person

Table 1.1 (continued)

The name of a theory or a concept	Main areas of application
5. The concept of “the innovative man”	Innovative labor becomes a driving force; there is a change in the position of an employee in the system of social reproduction due to the fact that intellectual work is put forward at the forefront as a combination of education and science
6. Human capital theory	Knowledge of employees is considered as a form of investment, they become one of the key assets of the employee, and for the economy as a whole it is one of the most important factors of production
7. The concept of “human potential”	It is aimed at improving the economic mechanism. It allows implementing annual cross-country comparisons through the human development index – HDI
8. The concept of the individual, society and state	It is aimed at revealing the creative potential of the individual
9. The theory of social capital	It promotes trust and behavior in society, knowledge and innovation, provides a basis for cooperation, reduces the risks of social conflict and violence
10. The concept of national collective capital	The national idea can increase the passion of the nation, motivate people to solve important national problems

Human decision-making, socio-economic behavior can be seen as a subjective basis within the economic system as an objective basis. This leads us to understand the variability of economic systems that change under the influence of the type of management (administrative, centralized or liberal, spontaneous ones), the conditions of functioning and national characteristics. In addition to economic factors, the economic system and its mechanism are significantly affected by non-economic factors (social, spiritual, environmental, moral, etc.). The subjective (human) factor becomes a necessary condition for the implementation of the objective requirements of production, economic laws. The considered concepts pay attention to the person and the problem of his self-realization. Therefore, in the context of the development of the digital economy, the focus of society on the comprehensive development of the person, the training of competent personnel to solve the problems facing the country is a necessary condition for the development of the national socio-economic system.

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2 Digitalized Reality as a Concept of Modern Economic Knowledge

Introduction

Digital economy as a studied subject is an aspect of a broader ontological formation. Comprehension of digitalized reality serves as a prologue for solution of one of the most complex problems of economic theory and economic philosophy – conceptual distribution of indicators of mega-economy and transformation economy.

The notion of mega-economy is currently used in two different meanings according to regulatory and positive economic science. In the first case, it means nomologic understanding of mega-economy, complimenting the notional microeconomic range. It indicates various details of openness of national economies existing in interrelated, slightly nonequilibrium global world. The nomologic definition is relevant to ideal essential features, fully realizing the advantages of international division of labor (Zhuravlyova et al., 2019).

In the second case, “event-based” definition of mega-economy is applied, defining it as a contradictive, ambiguous functioning of open national economies. The notion of “economy of transformation” is aimed at updating the problem of mechanism and forms of economic changes amidst super-complex, strongly non-equilibrium conditions of the global world.

Methodology

Introduction of digital economy broadens the methodological base of system study of modern open economy. The term “system”, deeply rooted in the economic science, has not yet received the status of a basic ontological and gnoseological notion. Its insufficient explication leads to mostly political-economic interpretation of system as a total of productive relations (Zhuravlyova et al., 2019) and prevalence of structural-organizational perceptions in various management concepts (Krivosheyeva, 2015).

The main hypothesis of the article is that comprehension of digital economy requires aligning two classes of problems: categorial-notional update of economic theory and broadening of its subject area with the help of the achievements of scientific philosophy. One of methodological tools for such conjunction is differentiated

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system analysis of digital economy with respect to differences between classic, neo-classic and post-neoclassic types of scientific rationality (Stepin, 2015). Such angle of research allows tracing back the logic of evolution of digital economy and revealing ontological and gnoseological substantiations of the said process.

Results

The notion of information plays an important part in step-by-step study of the phenomenon of digitalized reality. Let us compare the notions of “information” and “digitalization”. In our opinion, within the framework of classic scientific rationality, information is understood as the process of production, storage and transfer of knowledge in order to move closer towards the absolute-relative truth.

Another understanding of information relates to neoclassic rationality type, the thrive towards consensus between heterogenous discourses. Information is a process of production, storage and broadcast of subject-object senses. Unlike the phenomenon of knowledge, sense features a subject content and expresses the value-appraising character of information technologies. Information becomes a learning and practical resource of a subject if the performed communication results in formation of a sense having value from the sender and the receiver. In other words, information becomes symbolic communication.

In post-nonclassical science, information interpretation is updated as intrasystem communication affecting the level of self-organization of the system amidst falling or rising chaos. Through interior monitoring, the system learns the level of its disorder and the influence of external environment, and with the help of system information resources, it stabilizes its condition or reestablishes the communications it requires (Luhmann, 1989). In this sense, information technologies are beneficial for the achievement of efficient functioning of economic and social existence. At the same time, the scientific literature is becoming increasingly assured that public life is already saturated with information instruments and information products, that informatization of social space has already happened. This idea allows speculating about the completion of informatization stage (Nikoulina and Starchenko, 2018).

Let us adapt the notion of digitalization to the conceptual and categorical framework of social philosophy and philosophy of science. The fact that digitalization is a means of data transfer speaks of the practice-oriented nature of this technology, and the fact that digitalization serves as a means to bind this data signalizes the intellectual character of the technology. The term “data”, dominating digitalization definitions, is interesting in the context of the family of ontological and gnoseological notions.

Firstly, data are neutral in relation to subject-object nature of the cognitive process, they reflect both subjective and objective reality in equal measure. Secondly, data are ontologically indifferent towards objective and virtual reality. Both realities act as sources of cognition and action space (online games, social networks, etc.). Now digitalization already includes information resources and communicatory data bulks, “limiting” the infinity of information (photo, audio, etc.).

Digitalization is not merely bound with technical availability by analytic analysis procedure, it itself acts as a subtype of analytic activity. Digitalization acts as a mechanism of a certain kind designed for input of information about reality phenomena into the conscience of subjects, ensuring its treatment and certain processing. Digitalization can also be reviewed as a type of system methodology. It seems that comprehension of digitalization phenomenon reveals the epistemic potential of such types of system methodology as modelling and projecting. In relation of informatization, digitalization serves as a metatheoretical level of learning, as infoworld is an observable reality for digital technology. Digital world is the observing reality, modelling the objective world and the world of communicatory data.

Undoubtedly digitalization has a target-oriented, practical focus. The efficiency of the procedure much depends on the final result of the operation of choice and comprehension of data flow. In this regard, the notions of “technology” and “method” interrelate just as methodic and method. It seems that in case of digitalization, one can witness a post-nonclassical epistemic effect of “turnover” of theory and method of ontologization of methodology. The way of data connection turns out to be a projecting activity and reality which is further operated by communication subjects. Thus, digitalization is often defined as both an instrumental method and an existential environment (Nikoulina and Starchenko, 2018).

Digitalization presumes logically substantiated information offer, as in digitalization, the object of learning is constituted and cloned, knowledge of this object is organized and its practical, system value is determined. In our view, in terms of digitalization, information equals knowledge in its post-nonclassical meaning. Knowledge is any form of intrasystem or intersystem monitoring, beneficial to system self-organization.

Thanks to digitalization, the process of learning is incorporated into reality itself. Uniformity of extraction, processing, treatment and use of information, achieved by digitalization, is fixed contensively and functionally, forming intersubjective semantic field. The subject of learning is inside the slightly nonequilibrium reality, selection and processing of communicatory data points out the rational character of constructive actions of the subject.

Let us discuss the term “digital economy”, which gives us two different meanings when translated from English: a real economy sector and scientific field. There is no mixing between meanings here, we are talking about post-nonclassical interpretation of system reality, according to which, scientific knowledge is involved in