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"Knowledge Economy" as a Resource for the Intensification of Socio-Economic Transformation of the Regional Economic Space

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ABSTRACT

In 2000, at the Lisbon summit of the Council of Europe has formulated a strategic goal of the European Union in the coming century - to become by 2010 "the most competitive and dynamic economy in the world based on knowledge, capable of sustainable economic growth, along with an increase in the number and quality of jobs and strengthening social cohesion." European Commission report notes that the core of the economy based on knowledge and the knowledge society is the combination of four elements: (1) The production of knowledge; (2) the transfer of knowledge through education; (3) the dissemination of knowledge through information and communication technologies; (4) the use of knowledge in technological innovation. We mean "knowledge economy" - as an economy in which knowledge and innovation play a dominant role in economic development. The emergence of the knowledge economy is characterized by the increasing role of knowledge as a factor of production and their significant impact on the qualifications, training, organization and innovation.

Keywords: Knowledge-based Economy, Regional Economics, Economics of Education
JEL Classifications: A2, D8, P25

1. INTRODUCTION

Global competition in the "knowledge economy" is transforming not only structural but also functional contours of global economic management, manifested in such important characteristics as the dominance of the service sector, growth-tech, information, integration of production, formation of socially oriented type of economy, as well as the revision scientific and educational concepts of human capital development.

It is the education - The system of formation of the intellectual capital of the nation and as one of the main areas of production innovation - creating the basic conditions for the rapid growth markets on the basis of rapid updating of technologies and products. Education advocates the first link of the innovation cycle "education - research - the massive development of innovation." This educational sphere acts not only as a necessary element of reproduction of intellectual capital, but also as a dominant element of economic growth, which determines the stability of the external and internal competitive advantages of national economic systems. The ability of the national economy play an individual and a public intellectual capital, which implements the level of economic thinking of the nation, is largely determined by economic power, well-being, the choice of its strategy and subsequent development path in a global world order.

In this regard, before the Russian education there are urgent problems associated with the need to comply transformational changes in the education sector: First, innovative model of development of the Russian economy, and secondly, the social demands of suppliers and consumers of educational services (ESs), and third, the requirements of global competition in the

markets innovation, employment and education. Determination of the global educational space on the basis of the "knowledge economy" controls the connection of the latter with social planning of ESs, and dictates the choice of the general vector transformation of socio-economic systems, historical logic of structural and functional modernization of ESs (Kobersy et al., 2015), as well as the sector of institutional mechanisms for the implementation of transformational dynamics of ESs.

In other words, the transformation of ESs - not just a change in the content and functions of certain sectors of society, it is a condition of optimization changes themselves of the national economy, as defined by the measures must be changes within the framework of which there is a selection of the most significant and long-term, there is an adaptation of the national market of ESs to changes global external environment through the formation of new goals, programs, projects, technologies, etc.

2. RESEARCH METHODOLOGY

Theoretical and methodological basis of the research are fundamental assumptions of economic theory about the objective of conditioning the transformation of knowledge into a dominant factor in the sustainable development of economic systems; human capital theory; life cycle theory of organizations and services, as well as the economics of education (Shkurkin et al., 2015).

Instrumentation and methodical apparatus of investigation includes the basics of general scientific and economic methods will reveal the essential characteristics of the processes, forms of their manifestation, highlight the inherent contradictions and identify trends in their development. The study was conducted with the use of the system and structural-level approach, methods of logical and comparative analysis.

Information and empirical basis of the study, can justify and get reliable results, compiled from official materials of federal and regional statistical offices, yearbooks, economic performance and scientific generalizations monographs domestic and foreign scientists.

3. MAIN PART

ES are among the mixed blessings because there are elements of both public and private, own for each consumer good and private good is prevailing. Among the motivations when deciding on purchasing a private good - ESs can be: The desire of gaining a greater degree of self-sufficiency, the increasing importance of social status, increasing the role of socio-economic status of the individual, the acquisition of guarantees other than the prospect of employment in the future. Social significance of ESs is manifested in its consumption poly-variance community groups in the prevalence and the inexhaustibility of this type of service.

ESs for all people is tantamount, however, assimilation, accumulation, use it occurs in different ways, methods, pace. This is due to the unique abilities of each person completely different take, process and use information.

Kotler has identified four main characteristics of ESs: Intangibility, inseparability of production, the quality of impermanence, not persistence (Kotler, 1995). Intangibility or intangible nature of ESs means you cannot demonstrate, see, taste, or to study it before the receipt. There is an element of trust in the seller of ESs. Continuity of production and consumption of services are distinguished from the goods in material form. The inevitable consequence of the inseparability of production and consumption is the variability of execution services, due to the level of scientific and educational potential of the employees of the university. Quality ES essentially depends on what kind of institution it provides. Failure to storage - ESs cannot be stored for future sale. If demand is greater than supply side, the situation cannot be changed, for example, in the store, get the goods from the warehouse.

In addition, Guseva as special features inherent in ESs, stands out the high cost of ES (scientific and intellectual services); the relative duration of their execution (rendering); long period of time to identify the impact and results of the dependence on the conditions of future work and life of the graduate (Guseva, 2001).

In the study of organizational and managerial aspects of the education market determines their importance are conclusions of new institutional economics: Coase, Buchanan, Vanberga. They first used the techniques and the economic categories in the study of non-market effects, such as education, health, discriminant-racial nation, etc. The original interpretation of ESs given Lovelock as the intangible actions aimed at human consciousness (Buchanan, 1998; Vanberg, 1995; Coase, 1990; Coase, 1996).

Features that distinguish goods from services studied by many scientists, but Shostok first successfully divided the goods and services, designating the main distinctive sphere of separating services from the goods - that is their intangibility. Depending on the customization services to meet the highly specialized needs of every consumer, from the representatives of concurrent users, there is a gradation of staff in the creation of customer value as the "front-office" - is part of the employees that directly communicate with customers, and "back-office" - secondary staff, for the production of services. Accordingly, the following classification was proposed services:

- Professional services - interaction with the staff, and not with the equipment, the contact is sufficiently long, customization, the main creator of customer value is the "front office," an example of consulting services to the companies;
- Mass services - interaction with the equipment, contact time little customization is minimal or absent, customer value is created "back-office," an example transport organizations;
- Shopping service category average between the first two, and combining the use of staff and equipment, and the ability to customize the middle.

ESs cannot be attributed to any particular of these categories, the variability is projected on all the components of the processes of care. In our opinion, a direct link can be traced in the amount

of ESs (versatility, the number of new component capacity of alternative components DU) and its price, which structure is often informally imputed this invisible aspect as the prestige, which in turn significantly increases the valuation of ESs. As a result, such a statement by ESs, we understand:

- The transfer of knowledge through lectures, strengthening skills through seminars, practical and laboratory studies;
- Organization of the learning process. On the one hand, the organization of its contents (teaching subjects in sequence, alternating lectures and workshops), and on the other - the organization of various forms of training (training schedule, examinations, consultations and other forms of educational work), in addition, the possibility to use library fund, computer labs and classrooms;
- The ability to apply their skills in research work in scientific societies, study groups, conferences;
- The ability to participate in international student exchanges, internships abroad;
- Organization of practices in companies and organizations under the supervision of representatives of these organizations and of the university;
- Invited foreign and domestic experts, practitioners to speak with guest lectures;
- An opportunity to learn a trade and related workers get different qualification documents (Mikhailov, 2005).

In the scientific literature there are the following features of ESs: The lack of material form; the possibility of accumulation; consumption at the moment of manufacture; the consumer price of the service - it is a beneficial effect of human labor activity. ESs as an object of education market have specific characteristics: Social mobility, adaptation, i.e. approximation of youth to international markets highly skilled labor; social protection - unemployment (Burdenko, 2004).

Some researchers define the ES the volume of educational information, as the sum of the knowledge of general education and special character and skills of the person sent on a specific program, For example, Zinnurov notes that the level of initial quality of ESs depends on perseverance, hard work itself the consumer, and not only on the professionalism of the teacher (Zinnurov, 1993).

In our opinion, the specificity of ESs is as follows:
Firstly, in a multistage ESs, which manifests itself in the fact that for a higher level of education the potential demand on the steps of forming a lower level. So, the demand for higher vocational education graduates is determined on the steps of a general and secondary vocational education (Deming, 2006).

Secondly, in the long-term consumption of ESs. Thus, the period of study for Bachelor of 4 years, Master - 6 years.

Third, in the development of free education in the Russian geographic market of consumers of higher ESs for individual universities are not extended and narrowed down to the regional and local levels, due to changes in the socio-economic environment and the development of competition, which intensified with the emergence and growth of non-governmental institutions.

Fourth, in the absence of the market of ESs marketing intermediaries, contributing to the creation of highly organized systems of product distribution: ESs - in the market of consumers of ESs; labor specialists - graduates - in the labor market.

Fifth, in shaping the demand for ESs is mainly based on the current labor market needs (in quantitative and structural) without taking into account possible changes in the labor market for the future 5 years or more.

As is known, the effectiveness of the functioning of the education market is accompanied by a positive or negative employment dynamics of the labor market. Because of the duration of higher education there is "the effect of the temporary benefit." The labor market is a movable structural part of its composition, the market for ESs "can be delayed with the changes in the structure" (Korchagova, 2004).

Note that these movements of market agents constantly changing, due to the release of experts in the educational market and the consumption of the labor market. On the capacity markets and their interaction significantly affected by externalities.

Market of ESs in the modern dynamics of market relations - A kind of sphere of circulation, which are used to regulate such organizational and management practices, with the competent use of which transactions for the sale or purchase of a predetermined manufacturer and agreed with the customer volume of ESs.

For the theoretical understanding of the ongoing global changes in cognitive characteristics (i.e., determine the nature, content and mechanism of creation, dissemination and use) a modern economy at the macro and micro level, the terms "information economy," "new economy" (Winer, 1958), "knowledge economy" and an "economy based on knowledge" in which we study the different effects of the exponential increment of knowledge and increasing the rate of aging of the information related to the fact that 70-85% of annual gross domestic product (GDP) growth in a post-industrial development is ensured by using the system of knowledge in various fields of human activity.

In 2000, at the Lisbon summit of the Council of Europe has formulated a strategic goal of the European Union (EU) in the coming century - to become by 2010 "the most competitive and dynamic economy in the world based on knowledge, capable of sustainable economic growth, along with an increase in the number and quality of jobs and strengthening social cohesion." The European Commission report notes that the core of the economy based on knowledge and the knowledge society is the combination of four elements: (1) The production of knowledge; (2) the transfer of knowledge through education; (3) the dissemination of knowledge through information and communication technologies; (4) The use of knowledge in technological innovation.

In a broad sense "knowledge economy" - An economy in which knowledge and innovation play a dominant role in economic development. The emergence of "knowledge economy" is characterized by the increasing role of knowledge as a factor

of production and their significant impact on the qualifications, training, organization and innovation.

Among the many definitions of the term "knowledge," reflecting the substantial core of each case, taking a different incarnation of the multidimensional phenomenon of knowledge or its properties such as - knowledge of the process (Ikudzhiro and Hirotaka, 2003) knowledge as activity (Zheleny, 2002), the knowledge - both systematic and due to the implementation of the results of cognitive activity It reflected in the human mind, knowledge - institutionalized memory of individuals.

In the "knowledge economy" has not developed a common conceptual platform combining different approaches to the basic theoretical and methodological issues relating to the nature, functions, and the use of the phenomenon of transformation of knowledge. Differences in the interpretation of "knowledge economy" are defined by diverse accents of this phenomenon and, in general there are several conceptual approaches: The concept of knowledge as a source of power; the concept of knowledge as a new resource (factor of production) economic development; the concept of knowledge as the most important consequences of the Information Society; the concept of knowledge as a set of codified and uncodified knowledge elements; the concept of knowledge as a specific product of intellectual property; the concept of knowledge as a mixed blessing.

The concept of knowledge as a source of power presented in sociology and philosophy, especially in Toffler's "Metamorphosis of Power," in which he stressed that "Often, the knowledge can be used so that other people were forced to act in a way desirable for the subject, but not in own interests… the power knowledge gives the highest quality." In terms of this approach, says the specifics of knowledge as a source of power and, unlike other sources of power in the previous era, namely knowledge has tremendous flexibility and unlimited in contrast to the "violence" and "wealth" as the other sources of power inherent in the early stages of development Society, knowledge never ends, knowledge cannot be spent, the more it is given, the more knowledge becomes. This approach highlights the regulatory and coordinating function of the behavior of individuals in a knowledge society.

The concept of knowledge as a new resource (factor of production) economic development associated with the names Mahloupa and Drucker. The term "economy based on knowledge" (knowledge-based economy) Machlup introduced in the 60s, which proposed to divide all the knowledge (information) on five species: Practical knowledge, intellectual knowledge, entertainment and everyday knowledge, spiritual knowledge, unnecessary knowledge. However, the term "economy based on knowledge" did not received proper distribution, besides the "knowledge economy" is understood in a purely functional and sectoral aspect - as one of the sectors of the economy.

Social preconditions of the "knowledge society" and "learning organizations" in the second half of XX century. First investigated by Peter Drucker, who believed that "the computerization of administrative processes associated with the rapid replacement of working knowledge." Serial analysis of this process in the works of 1970-1990-ies. He led scientists to the idea of the transformation of modern society which can be defined as the "knowledge society." Drucker coined the term "knowledge worker" and described knowledge as "the only sustainable competitive advantage."

In addition, the most important attribute such characteristics of human capital - the degree of his qualifications, competence of workers and managerial staff, refers to the so-called "soft factors" for economic growth (Inozemtsev, 2000). Russia makes the most of its resource potential, but in the long-term sustainability of its economic growth and competitive advantage is determined not so much "raw" factors, as well as the need to strengthen the soft factors of economic growth: To create the conditions and incentives for the development of human capital, institutional and infrastructural factors of economic growth. This approach emphasizes that knowledge is becoming a key factor of economic growth along with capital and labor.

The next moment, the concept of knowledge as the most important consequence of the development of the information society and the information revolution. Change channel data and information has led to the emergence of the "information revolution," according to Drucker, it is the fourth since the invention of writing, manuscripts and printing press (Intellectual Resources Organization, 2000). In studies devoted to the Information Society stressed that the fundamental features of the Information Society defines the growing role of information and knowledge in the social and economic development, and information technology support and stimulate the changes.

The concept of knowledge as a set of codified and uncodified elements of knowledge focuses on changing the structure of knowledge and the specifics of "knowledge", "data" as opposed to "information." In a series of "data - information - knowledge," there are differences between the elements.

"Data" is usually seen as a sign or recorded observations, which are not used, but only stored. When the data are used to reduce the degree of uncertainty of anything, they are transformed into "information," as information has a new meaning for the individual perceives it. "Information - a set of data that has already interpreted that managed to make some sense. A knowledge - product use information." Although not all the data is information. To become information data, you need to extract from them the meaning. However, the information having a meaning is not yet knowledge. "Knowledge - is the ability to apply the information to a particular kind of activity." Knowledge arises when the information meaning "tied" to the reality that, based on this sense, it is possible to act. Knowledge and experience allow us to interpret the vision to build a future.

Codified and explicit knowledge and how information can be transmitted and "alienated" in the learning process through methodological tools, algorithms, formal methods for further processing and assimilation.

Information technology has greatly simplified the systematization and transfer of codified knowledge at any distance at minimal cost. Codified knowledge, thus easily reproducible, may acquire the commodity form and to be represented in the relevant markets of scientific, technical, patent and other information, as well as a core component of ESs. Production of codified knowledge is collective, and their existence after they are created, separate from the creators and more independent of them.

Inalienable, uncodified, implicit knowledge (implicit knowledge – "inalienable" and unmovable on the media) cannot be transferred into the learning process, but are a means for the transmission of explicit knowledge. From the standpoint of the theory of personal knowledge of the fundamental thesis used the "impossibility" of transmission of knowledge, knowledge is not transferred, and "constructed" by the man himself, only information. According to Polanyi, "because of the tacit nature of our knowledge, we can never express all that we know exactly how because of the tacit nature of the values we can never fully know all that be implied by our statements."

Thus, codified knowledge, unlike tacit knowledge is the scientific information base, which is in the process of commercialization is converted into new technologies, products and services. Implicit knowledge embodied in human capital, ensure that the process of transformation of codified knowledge in economic development and the growth of national wealth. As part of this concept is emphasized that codified knowledge may be subject to a means of transactions from one individual to another, and implicit knowledge are not passed and are inalienable from his vehicle.

Knowledge, tend to continuously be transformed into a public good. Any unique (private) knowledge through a period of time it becomes publicly available.

In the knowledge society, each member receives an increasing share of the public good, in fact, without putting anything in its creation. Such knowledge de-individualized and "works" by itself, without regard to the suppliers of knowledge. After multiple transactions (sales) knowledge becomes the property of the whole multitude. Then the capitalization of this knowledge is impossible, it ceases to generate competitive advantages. It was at this time of the critical point of knowledge is a public good. At a time when knowledge becomes available to all, it loses the ability to create and redeploy capital, but he has the ability to raise the standard of living of all members of society.

Stepping out of the various concepts of the knowledge economy can be formulated transformation functions of knowledge in the modern economy, as an economy based on knowledge, the composition of the functions executed in the knowledge society and economy, significantly expanding.

Changing the function of knowledge in the modern economy has transformed and functions of ESs, defining a new stage in the process of production and consumption of ESs, in which the transformation of previously existing national education systems that generate qualitatively new "field interaction" national stakeholders of the education market, the transformation of the educational paradigm.

Thus, the authors see the different functional features of the new educational paradigm is that it is - An interdisciplinary, projective personality, learning, cognitive, creative, information, synergy, a continuous (The Bologna Process: Growing Dynamics and Diversity, 2002), globalizing.

4. ANALYTICS

As the Organization for Economic Co-operation and Development (OECD) study in today's economy there have been significant transformations in the direction of the flow of knowledge between developed and developing countries, changes in the share of industrial innovation, the growing number of patents and scientific publications, as well as the development of the internationalization of research and development (R and D).

The first trend in the use of knowledge flows associated with the redistribution of global R and D from the developed countries to the countries outside the OECD (countries BRIC). In 2006, the global share of total R and D spending in the three major OECD countries accounted for about 35% in the US, 24% - in the EU27, 14% - in Japan. In countries not members of the OECD account for a rapidly growing share of global R and D - 27% in 2006 compared to 11.7% in 1996. This change is partly due to the growing weight of these countries in the global economy.

At the same time Japan's global share has remained unchanged, the US share decreased by more than 3%, due to the very slow growth of business spending on R and D, and the share of the EU decreased by 2%, while the share of OECD countries increased by 16%. The high proportion of OECD countries due to increased R and D spending in China from 2.2% to 7.6% of GDP.

The second trend in the use of knowledge flows associated with the fall of the growth rate of R and D companies, which slowed but remains positive. The fact that most developed countries, the share of R and D accounts for the industrial sector, and this type of investment has increased in the last decade, though the pace of growth slowed sharply after 2001 in the EU27 R and D intensity in enterprises from 1996 to 2006. Increased marginally - to 1.11% of GDP. In the US, R and D intensity amounted to 1.84% of enterprises of GDP in 2006, compared with 2.05% in 2000, while in Japan - at 2.62% of GDP. In China, the ratio of R and D and GDP has increased dramatically, especially since 2000, and almost caught up with the intensity of the EU27, amounting to 1.02% of GDP in 2006.

The third trend in the use of knowledge flows associated with the expanding internationalization of R and D, as an increasing proportion of R and D financed from abroad (through private enterprises, government institutions or international organizations). In most OECD countries, a growing share of foreign affiliates R and D companies, foreign companies acquire local enterprises engaged in R and D, or creating new subsidiaries. This trend is confirmed by the growing share of foreign affiliates of TNCs

spending on R and D that the world has increased from 30 billion dollars 67 (or 10 to 16% of global industrial R and D).

5. CONCLUSIONS

Thus, the "knowledge economy" as a resource for the intensification of socio-economic transformation of the regional economic space, related to the following essential conditions: The wide diffusion of scientific knowledge, information and training (flexibility, modularity, continuity, multistage); development of human capital, has a receptive to new knowledge, including the provision of conditions for education and professional development of employees throughout their life, the promotion of professional mobility of workers both between the public and private sectors and between different areas of professional fields; substantial transformation knowledge flows between developed and developing countries, changes in the share of industrial innovation, the growing number of patents and scientific publications, as well as the development of the internationalization of R and D; strengthening the relationship in a series of "education - research - the massive development of innovation" based on the development of innovation infrastructure, innovation networks and the formation of global innovation clusters; development of public and private institutions, interoperable corresponding components serving the growth of an innovative susceptibility of economy and society (including public-private partnership and mutual responsibility of the state and business in economic development, based on the use of new knowledge and innovation).

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