

SOCIAL DEVELOPMENT

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Mechanisms of formation and implementation of organizational and managerial component of the region's human capital

The article is devoted to the study of mechanisms of formation and implementation of organizational and managerial components of the region's human capital in the conditions of transition to innovation type of economy. The algorithm of forming the organizational and managerial components of human potential in the conditions of transition to innovation economy is proposed.

Human capital, organizational and managerial component of the region's human potential, innovation economic development.



**Natalia N.
SHESTAKOVA**

Ph.D. in Technical Sciences, Senior Research Associate at the Institute of Problems of Regional Economics of RAS
nnshestakova@gmail.com

Prior to discussing the issue concerning the formation and realization of organizational and managerial components of the region's human capital, it is necessary to make an introductory note regarding the use of such notions as "human capital" and "human potential". Without plunging into the details of scientific debates on these definitions, we express the author's point of view, which

serves as the basis for future discussions. So, in our opinion, the concept of potential is clearly broader than the concept of capital, because, firstly, it includes not only the features that are relevant to the process of work and can be used in it – as in the category of capital¹, but also a person's qualities, used in nonproduction sphere (in private and public life, etc.).

¹ For instance, A.I. Dobrynin gives the following definition: Human capital is a "certain stock of health, knowledge, skills, abilities, motivations, generated as a result of investments and accumulated by an individual, which are purposefully used in a certain sphere of social reproduction (author's italics), contribute to the growth of labour productivity and production efficiency and thus affect the growth of earnings (income) of a given person" [4]. Human capital can be considered as a special "fund, the functions of which include production of labour services in the common units of measurement, and this fund, in this capacity, is similar to any machine as a representative of the capital goods" [4] (with a reference to Y. Ben-Porath [18, p. 352-365]); the team of scientists headed by L.I. Abalkin, who study the problem of Russia's strategic development in the new century, consider human capital as the combination of innate abilities, general and special education, acquired professional experience, creative potential, moral, psychological and physical health, and the motives of activity, that provide an opportunity to gain profit [15, p. 21-22].

Secondly, the essence of human, as well as any other capital lies in its *ability to reproduce itself* (i.e. multiply the assets invested in it). The essence of human potential consists in the ability to *develop* the bearer of this potential, i.e. a person, a group of people or, in our case, territorially limited society – regardless of the increase in its value or scope of the subsequent application. In this respect, human development is regarded as a bilateral process: on the one hand, as the *formation of properties* (strengthening of health, acquisition of knowledge, improvement of professional skills), and on the other – as the *use of the acquired properties* for production purposes or for the purposes of leisure, cultural activity, political activity, etc.

Thus, the author's position can be reduced to the following statement: the processes of formation and realization of human potential create the necessary prerequisites for its capitalization or transformation, in the conditions of social production/reproduction, into human capital.

The foregoing premises allow us to refer to the category of human potential, understood as the complexes of systems of universal (general) and specific (specialized) needs, abilities and aptitudes of different social communities to carry out socially important activities, basic social roles, functions, such roles and functions, which ensure both continuity and innovations in the development of vital social spheres, as well as in the society as a whole" [16, p. 19].

Traditionally, the structure of human potential comprises the following components and relationships between them: demographic component; health component; education component; labour component; cultural component; civil component; spiritually-moral component. Each of them can be related with the relevant socially important activities: the demographic component – activities

related to the population reproduction; the health component – activities aimed at ensuring physical and mental health of the society; the education component – activities for creating "knowledge society"; the labour component – activities related to the production of material goods and various services; the cultural component – activities related to the production of spiritual benefits; the civil component – activities aimed at ensuring social order; the spiritually-moral component – activities related to the consolidation of the society on the basis of moral values [16, p. 20].

However, it is possible to classify the human potential components on other grounds as well, which, as a rule, reflect the specific objective of the study. So, with respect to the conditions of Russian society's transition to innovation economy, the following arrangement of human potential components seems quite acceptable: innovation, entrepreneurship, scientific-technical, organizational-managerial, competitive, forecast-analytical, labor and professional (suggested by O.I. Ivanov, Doctor of Economics).

Let us single out the organizational-managerial component of human capital and the basic mechanisms of its formation and implementation.

In this study, the organizational-managerial component of human capital is understood as the complex of needs, abilities and aptitudes of its bearers to perform activities on cooperation, coordination, optimization, direction and stimulation of the actions of social communities, organizations, groups in the transition to a productive and constructive functioning of the <human potential> under the innovation-type market economy, it is possible to speak about basic patterns, which form the objective basis for the submission of requirements to the system and technology of human potential organization and management.

These patterns can include the following positions.

- Compliance of a territorial/regional human potential management system with the requirements of its socio-economic development as related to setting goals, reflecting the peculiarities, the status and trends of development.

- Systemic character of the territorial/regional human potential organization and management with regard to considering all the intrasystem relations, the correlation of subsystems and elements, the relations between the territorial/ regional human potential management system, and the organization and management of its socio-economic development, as well as between the territorial/ regional human potential management system and the organization and the external environment.

- Optimal combination of centralization and decentralization of the territorial/ regional human potential management, which is expressed in the correlation of the decision-making level and decision-implementing level (the higher the level, at which the decision is made, and the lower the step, for which it is intended, the higher the level of personnel management centralization, and vice versa); the human potential management centralization level should change according to the extent of socio-economic development of the territory.

- Compliance of the degree of complexity of the territorial/regional human potential management system with the level of the region's socio-economic system development (it is impossible to create a simple regional human potential management system for a complex system of a region's socio-economic system management).

- Side-by-side development of the region's socio-economic system with the development of the functions of the territorial/regional human potential organization and management.

- Rationality in the number of territorial/regional human potential management levels: the most efficient is the system with a minimum of necessary and sufficient number of management levels.

- Taking into consideration a combination of various impact factors in the process of territorial/regional human potential management and understanding, in this connection, the unity of action of the organization and managerial principles.

Let us have a look at the key mechanisms of forming and implementing the organizational-managerial component of human potential, relying on the viewpoint of a member of the International Academy of Sciences (Munich, Germany), Professor V.I. Knorr: "Management is a process, and **management system** is a mechanism of ensuring this process. Any dynamic process, in which people can participate as well, consists of separate procedures, operations and interrelated stages. Their sequence and correlation make the technology of management < ... > process" [9, p. 31-32].

At present, public and private sectors have a whole range of different kinds of mechanisms appropriate to the conditions of the country's transition to the innovation development. Let us define some of them: active and prospective, potentially interesting for implementation.

The mechanisms/organizational forms of innovation development coordination and management can, in particular, include the mechanisms described in the section "National innovation system: coordination model"² of the draft Strategy of innovation development of the Russian Federation for the period up to 2020 [6, p. 19]. They are as follows.

1. Accumulation of human potential in the sphere of science, education, technology and innovation. This task includes the increase of people's susceptibility to innovations –

² It should be noted, that in a subsequent edition of the document, this section is absent.

innovation products and technologies, the comprehensive expansion of the “class” of innovation entrepreneurs, the establishment of “tolerance” for risk in the society, the promotion of innovation entrepreneurship and scientific-technical activities. Adaptation of all levels of the education system for the purposes of creating knowledge, competences, skills and behavior patterns required for innovation society and innovation economy, establishment of the system of continuous education. The innovation economy needs an “innovation person” who is not only able to use scientific and technological achievements to the fullest, but also the one who is oriented towards the creation of innovations, their introduction in all spheres of public life.

2. Sharp, multiple increase in innovation activity of existing **business** and dynamics of the emergence of new innovation companies. Business must view innovations not as a “hobby”, let alone as its obligation to the state, but as a behavior model crucial for the prospects of a company’s development, increasing its efficiency, and taking leadership positions in the markets. Provision on its basis of the technological modernization of key sectors, determining the role and rank of Russia in the world economy, increase of labour productivity in all sectors.

3. Improvement of the country’s “innovativeness” – large-scale introduction of modern innovation technologies in the activity of state governing bodies, the formation of “electronic government”, rendering the majority of services into e-form, increasing the use of state order system for innovations stimulation. The state should ensure the formation of a favorable “innovation climate”, including the creation of conditions and incentives for innovation activity, as well as favourable conditions for the use of innovations in all kinds of activities.

4. Formation of a balanced, sustainably developing R&D sector, which has the optimal

institutional structure, ensuring extended reproduction of knowledge, competitive on the world market; rapid increase of the efficiency of “conductive” infrastructure ensuring commercialization of R&D results.

5. Increasing the openness of the national innovation system and economy, the degree of Russia’ integration into the global processes of creating and using innovations, the expansion of the bilateral and multilateral international cooperation.

In the last few years, science and technology parks, special economic zones oriented towards the development and implementation of technology, technology transfer centres, resource centres became the most common organizational-managerial mechanisms of implementing and supporting the innovative activity of educational institutions.

Brief information on each of the forms is given below.

A science and technology park is a form of organizing innovation activities of educational institutions, scientific organizations, design and construction bureaus, innovation infrastructure organizations, industrial enterprises or their subdivisions, compactly located on a separate territory. The goal of science and technology parks lies in supporting high-tech business, usually in a certain area, as well as creating small hi-tech companies, but not the development of new technologies [10, p. 245].

A distinctive feature of science and technology parks is their close connection with higher education institutions and scientific-research organizations, having a corresponding infrastructure for innovation activity. As a rule, *science and technology parks are established on the basis of mutual agreements, concluded between educational institutions (scientific-research organizations), economic entities and state governing bodies (italics added - auth.)*.

At the same time, science and technology parks don't substitute the work of higher educational establishments, research institutes, laboratories on the production of innovation technologies, but provide for cooperation and interaction between science, industry, entrepreneurship and regional and local authorities, in implementing the process of R&D *commercialization (italics added - auth.)* [2]. The purpose of creating science and technology parks is to gain opportunities for the innovation development of a certain territory, the use of R&D and technological potential of individual organizations (or groups of them) and enterprises, raising the level of people's employment and their incomes increase, the achievement of other socially important goals.

At the present time, the Russian Federation has not yet formed an integral normative legal base, regulating innovation activity, including the issues of creation and functioning of science and technology parks. In the absence of a normative legal base, many regions have chosen their own way by adopting their own legal acts, aimed at supporting innovation-investment activity, including science and technology parks. So, for example, in 2006, the Voronezh oblast adopted the Law "On science and technology parks in the Voronezh oblast". This law determines the procedure and conditions of obtaining the status of a science and technology park, as well as the legal framework of the state support of such parks in the region. Later on, similar laws and programmes have been adopted in the Saratov, Samara, Tomsk, Tyumen oblasts, the republics of Bashkortostan and Tatarstan.

As a rule, a modern Russian science and technology park is a joint-stock company, the founding members of which are:

- owner of the premises transferred to a science and technology park (as a rule, state governing bodies or local self-government);
- bank, funding the construction of the park's infrastructure

- educational institution, interested in implementing innovation R&D.

The analysis, conducted by the Association "Technopark" in 2007, showed that 92% of science and technology parks in Russia are established under higher education institutions, 4% – on the basis of industrial or academic research institutes and 4% – on the basis of industrial enterprises. According to the Ministry of Education and Science of the Russian Federation, at present, there are approximately 76 university-based science and technology parks in Russia.

Special economic zones (SEZ) are separate territories (usually, from one to several square kilometers) with a special regime of entrepreneurial activity (in terms of taxation, customs regulations and activities of the state control bodies), which are created to stimulate the socio-economic development of individual regions, as well as to achieve the general economic goals of the country, for example, the innovation development of the economy as a whole. They are oriented towards the development of processing industries, high-tech industries, production of new types of products, transport infrastructure [3, p. 89-95].

The Federal Law dated 22 July, 2007 No. 116-FL "On special economic zones in the Russian Federation" defines the following types: industrial and development zones (established for the development of processing industries), technological implementation zones, port zones, tourist and recreational zones.

Obviously, the greatest innovation orientation is more typical for technological implementation zones, that are aimed at creation and *realization of R&D products, promotion of their industrial application, including manufacture, testing and realization of pilot lots*, as well as creation of software products, data collecting, processing and communication systems, distributed computing systems and *rendering their implementation and maintenance services*.

One of the key criteria for assessing the expediency of establishing a technological implementation special economic zone is the developmental level of higher educational institutions and scientific organizations situated on the potential SEZ territory, carrying out R&D in the prospective spheres of the technological implementation zone.

Educational institutions in collaboration with the organizations-residents of SEZ can interact in the following directions:

- implementation of joint R&D projects on the basis of established structural subdivisions (laboratories, R&D, technology centres);
- realization of joint research projects without creating separate structural subdivisions (for example, conclusion of contracts on carrying out R&D);
- establishment of organizational structures promoting the creation of new legal entities (for example, science and technology parks, technology transfer centres, etc.);
- financing of additional education by a partner company (for example, creation of additional specializations, required at SEZ-based enterprises, development of new disciplines and special courses, additional target training of specialists for a certain enterprise, etc.).

At present, 16 special economic zones are to be established in Russia in accordance with the Federal Law "On special economic zones in the Russian Federation". Four of them, of a technological implementation type, are being created in four regions: Moscow (Zelenograd), Moscow oblast (Dubna), St. Petersburg and Tomsk. For instance, about 300 small and medium-sized innovation business enterprises have been created in Tomsk. Herewith, some innovation enterprises are formed around the city higher educational establishments (Tomsk State University and Tomsk State University of Control Systems and Radioelectronics are among top 10 Russian innovation universities).

Professors, research associates, post-graduate students and students participate in the activities of such enterprises. Information, communication and electronic technology, novel materials and nanotechnology, biotechnology and medical technology were chosen as the main directions of Tomsk SEZ development.

In general, technological implementation zones open up promising opportunities for better realization of scientific-technical and innovation potential of RF subjects and their municipal entities through the joint use of state-owned and private resources.

Technology transfer (commercialization) centres (TTC) are separate organizations or structural units (of a university, research institute, etc.), oriented towards gaining profit from the *use of R&D results*, obtained at state research institutions and private companies [10, p. 10].

Cooperation between budgetary organizations and private business in the process of establishing technology transfer through university-based centres allows to solve the whole range of tasks [3, p. 95]:

- collaborative determination of the priority innovation research directions by conducting the monitoring of requests for specific R&D performance and by involving high-tech enterprises into the initial stages of innovation cycle;
- improvement of higher education institutions' scientific potential and implementation of customer-oriented approach in carrying out the university R&D, when actual demands of industry and the state in high-tech products are taken into account;
- solving the problem of young specialists' employment;
- reduction of the load on the state budget, the use of flexible target co-financing system for university R&D.

The first technology transfer centres were fully funded from the Federal budget, but today they often successfully cooperate with authorities and business structures.

Due to the absence of legislative registration of such cooperation, the conditions of concluding an agreement (contract) can vary significantly, which, accordingly, leads to limitations in replication of acquired experience in some cases. A positive example can be found in the activities of the Far Eastern State Technical University (FESTU) technology transfer centre [1]. On its basis the Federal Agency for science and innovations established the Centre for transfer of Russian technology and scientific-technical cooperation with APEC states (“TechnoRAPEC”) in 2005 within the framework of the federal target scientific-technical program “Research and development in the main guidelines of science and technology development for 2002 – 2006”. One more example can be found in the successful development of a cluster in the Penza oblast on the basis of the Penza State University [14].

Resource centre (RC) is a form of combination, integration and concentration of resources from various owners (state, employers, educational organizations, individuals) [12]. Resource centres solve the task of forming a single information space on the whole RF territory, this goal is contained in the Federal target programme “Development of the single educational information environment (2001 – 2005)”. The main goal of the Federal target programme was to create the information-technology infrastructure of education system and to increase the use of new information and telecommunication technologies in education process.

Upon analyzing the experience of the research centres functioning in the Moscow region, Samara, Yaroslavl, Tambov oblasts, the Republics of Chuvashia, Komi, etc., four main aspects of the resource centres functioning were determined [12]:

- development of a branch (employers concentrate the material base in the territorial resource centre oriented toward a particular branch of industry);

- development of technology (conditions are created for development, improvement of new (critical, breakthrough) technologies, which form a new production mode and are developed on a intersectoral, interterritorial basis (venture resource centre));

- development of infrastructure (conditions are created for constant reproduction of professional training specialists, workers of traditional occupations to ensure the continuity of all economic branches functioning);

- promotion of socialization (conditions are created for strengthening cooperative relations, facilitation of public access in the interests of forming the civil society).

Resource centres can have the following contract partners: the regional administration and its structural units; local authorities; commercial enterprises, including banks, non-commercial organizations, such as employment centres; individual entrepreneurs, etc.

The adoption of the Federal Law No. 217-FL “On introducing amendments to certain legislative acts of the Russian Federation concerning the creation by state-financed scientific and educational institutions of the economic entities for the purposes of practical application (implementation) of the results of intellectual activity” became an important step towards the creation of innovation economy in the country, the step, which is aimed at overcoming existing obstacles in the use and implementation of R&D results.

A new legitimate economic and legal mechanism was created encouraging state universities and scientific organizations to promote their R&D results and knowledge on the market, to participate in profits and management of *economic entities* established with their participation. The value of this mechanism is not reduced only to the possibility of obtaining deductions from profit of the established organizations. For universities, in particular, this means the opportunity of deepening the cooperation and strategic

Table 1. Number of economic entities established by higher education and scientific-research institutes in accordance with the Federal Law No. 217 dated 02 August, 2009 and registered in the Centre for Science Research and Statistics database by the RF Federal districts [7]

Federal district	Number of economic entities, registered in the CSRS database	Number of jobs planned to be created	Number of scientific-research institutes that established economic entities	Number of economic entities, established by scientific-research institutes	Number of economic entities meeting the requirements of the Federal Law No.217 dated 02 August, 2009
Central	209	465	8	8	111
North Western	53	35	1	1	34
Southern	61	64	-	-	41
North Caucasian	26	85	-	-	5
Volga	118	357	2	2	61
Siberian	184	293	4	6	118
Far Eastern	13	10	-	-	7
TOTAL	725	1472	15	17	403

partnership with industry, other economy sectors in the sphere of personnel training and scientific research at all stages of innovations life cycle [5].

Distribution of economic entities established by higher education and scientific research institutes on the territory of the Russian Federation is presented in *table 1*.

The table shows, that the largest number of economic entities was established by universities and research centers of the Central (217), Siberian (190) and Volga (120) Federal districts.

In the North Western Federal district 87 small innovation enterprises (hereinafter – SIE) were created under universities by the middle of 2011. Some of them are as follows.

In the Novgorod oblast, the most successful of the SIE are: LLC Grumant – development and production of pharmaceutical substances; LLC Meypick – development of technology and manufacture of layered structures on the basis of leuco sapphire wafers; LLC Enigron – development of masking compilers for almost any software product.

At the Vologda oblast higher education institutions there are the following small innovation enterprises: limited liability companies R&D and manufacturing firm ViVAT (technogenic products and waste recycling and

disposal technologies), R&D and manufacturing firm EnergoKIT (technologies of creating energy-saving systems of heat and electric power transportation, distribution and consumption); research-and-production centre “Information and energy technologies” (technology of artificial thawing of frozen soils using radiation and convection method during repair and construction works) established under the Vologda State Technical University; as well as the Limited liability company “Information technology security” of the Cherepovets State University (development and introduction of information security forms).

The Presidential programme for managerial personnel training (2007 – 2013)³ implemented in accordance with the Decree of the President of the Russian Federation “On the training of management personnel for the national economy of the Russian Federation” No. 774 dated 23 July, 1997 and the Decree of the Government of the Russian Federation No. 177 dated 24 March, 2007, in the format of a state plan is a bit forgotten but still functioning mechanism of formation and implementation of organizational and managerial component of human capital.

³ Detailed information on the programme is contained in [18].

The strategic goal of the programme is to improve the quality of management at domestic enterprises up to the international level. In the framework of the Presidential programme, 5000 managers annually attend training courses (550 hours) in the leading Russian education institutions, where they study an extended range of subjects in the field of economy and management. After that, they are given the opportunity of practical training at specialized Russian or foreign enterprises. Level of changes in the field of new technologies introduction at the enterprises participating in the Presidential programme is almost two times greater than the average data on Russian industrial enterprises. Due to the fulfillment by specialists of project tasks set in the course of education, about 400 new enterprises are established annually in Russia, the amount of external investments is measured by 300 million EUR, and average production cost saving equals 10%.

The objectives of the programme include:

- annual training of 5000 specialists in Russian educational institutions;
- practical training of up to 3000 specialists in the leading Russian and foreign organizations annually;
- assistance in implementation of the projects, developed by specialists.

Participation in the managerial personnel training programme provides an opportunity for Russian enterprises and organizations to achieve the following goals:

- create significant prerequisites for the transition to new managerial forms and principles;
- implement positive changes in the structures of management, production and corporate culture;
- solve the specific problems in the process of education and abroad onsite training of their specialists (restructuring, reprofiling, receiving investments and orders, etc.);
- establish new industrial and economic contacts with Russian and foreign enterprises,

and also develop the existing relations with traditional partners;

- participate in the specialized federal information database that would provide additional opportunities while participating in tenders for state orders and attracting investments.

Implementation of the Programme is of a regional character. So, for example, in Krasnoyarsk Krai, it is the responsibility of the Ministry of economy and regional development of the krai. Training is carried out in Siberian Federal University and Siberian State Aerospace University Named after Academician M.F. Reshetnev. In St. Petersburg the Programme-based training is carried out under 7 universities, which include: St. Petersburg State University; St. Petersburg Academy of Management and Economics; St. Petersburg State University of Engineering and Economics; St. Petersburg State University of Economics and Finance; St. Petersburg State Polytechnical University; North-Western Academy of Government Service; Saint-Petersburg State University of Information Technologies, Mechanics and Optics.

It should be noted, that since 2009 – 2010 academic year, the Programme contains an innovative component by introducing special advanced training programmes “Management in the sphere of innovations”.

Establishment of the Strategic Initiatives Agency (SIA) [13, 14], viewed as a kind of all-Russian business projects “incubator” and social ladder in implementing the most interesting, first of all, youth projects, has become a landmark event, reflecting the state’s efforts in creating the mechanism of implementing the organizational and managerial component of human potential. The agency is expected to promote the annual implementation of 100 – 200 projects of inexperienced businessmen mainly, and, in particular, it will provide support in working out business plans and financial models of functioning.

The Agency's tasks include: organizing interaction between small and medium-sized businesses, developing tax rules for innovation projects and establishing an independent examination institute, as well as developing the young businessmen and specialists' education standards. One of the goals of the autonomous non-profit organization SIA is "to promote the development of social and professional mobility of young specialists and groups". The three already existing non-profit business associations: Russian Union of Industrialists and Entrepreneurs, Business Russia and OPORA Russia (representing big, medium-sized and small business, respectively) assist in achieving this goal.

An important direction of implementing organizational and managerial component of human potential is Talent Management, i.e. the policy of attracting and retaining promising and talented specialists. *A method of continuous search for promising employees*, worked out by the Taganrog Interregional Chamber of Commerce and Industry (hereinafter - TICCI) can serve as an example of this kind of activity [8]. The programme's goal lies in introducing the system of selecting promising specialists among students; their identification, training and promotion for large and medium-sized enterprises of all types of ownership, social and cultural institutions, service sector, public authorities of different levels and local self-government. The main objective is information and methodological provision of the conditions for professional advancement of the project participants. Launched in 1999, the project focuses on the main groups of young people, among which special attention was paid to the students of Taganrog State University of Radioengineering. Its graduates are traditionally sought for by different companies and organizations dealing with science-based technologies and commercial activity. In the course of project implementation in 2004, on the basis of TICCI Department of business

information and consultations, a specialized section for working with promising employees was created, information and computer database of the project participants was formed that can be used by managers of enterprises and organizations, that are TICCI members.

The project is cyclical. Each implementation cycle consists of 3 main stages based on psychometric methods (with the tracking of rating of every participant), and an additional stage, chosen according to the specific needs in the study of the candidates.

At the first stage, the method of expert evaluation of a personality according to the standardized list of qualities (method of group assessment of a personality – GAP) is used to assess the peculiarities of personality manifestations from a subjective point of view.

At the second stage, with the use of diagnostic modules, objective information about the students' personal and business potential is collected, the understanding and prediction of their behavior from the standpoint of potential compatibility with the particular leader is studied. At the third stage, individual work with students is carried out, using interview methods (traditional, hypotheses testing, SPI – structured psychometric interview), that ensures obtaining additional information about the candidates.

The candidates, who passed each testing stage, are invited to participate in the next stage of selection process. Each stage is consistently implemented on a higher level, thus, reducing the share of unjustifiably selected candidates.

This methodology of deep selection/recruitment of highly qualified specialists with an expected set of personal qualities was tested in the framework of the programme aimed at finding potential employees among the students at two departments of the Taganrog State University of Radioengineering. According to the research results, the Taganrog Interregional Chamber of Commerce and Industry grants letters of recommendation to graduates, which contribute to their employment.

Society sets its special hopes on the human potential of *future* generations – children and young people, whose abilities, aptitudes and needs to carry out different activities are still at the stage of formation. In this connection, the following arguments regarding the mechanism of implementation of developing human potential are viewed as reasonable.

The notion, that all small children have creative abilities and needs for their realization doesn't require special proof. These abilities can belong to different spheres and areas. However, in the course of personality development, such abilities can be either traced and developed by adults (parents, child minders, teachers, etc.), or missed and even suppressed and lost or remain in an embryonic state. In this respect, at least two theses can be stated: 1) the change of educational paradigm from oriented towards an average student, pupil, etc. to a personalized approach to every child, adolescent is required in order to reveal his/her abilities and their orientation at an early stage and their further development⁴; 2) genetically inherent creative abilities and the need for their implementation should be realized by purposefully developed readiness to their implementation, and the whole "triad" should be given a positive, socially-oriented vector.

The following algorithm of forming and implementing (as children and young people become involved in work activities) the *organizational and managerial component of human potential* in the conditions of transition to innovation economy can be proposed.

- Identification (perhaps, testing) of abilities, needs and aptitudes to carrying out the organizational and managerial activities in childhood, education period and when choosing a career. In the Soviet period this function was purposefully and systematically performed

⁴ As an additional (deferred) result, one can expect the increase in the validity of professional self-determination, which, in its turn, will allow for more efficient use of the funds, allocated for professional education.

by the Little Octobrist, Young Pioneer and Komsomol organizations. This should also include promotion of a "creative class" – support of creative, gifted and talented children and adolescents through specialized schools and boarding schools, special programmes, grants, TV shows, competitions; the identification of talented children using searching methods (for example, in the U.S. and the United Kingdom science representatives visit schools around the country and give lectures and talks, not only educating young people, but also involving them in scientific research, cultivating a taste for this kind of research and simultaneously selecting promising students).

- Accumulation implies maintaining each individual's abilities, needs and aptitudes to the implementation of creative, initiative and organizational-managerial activities in general and in particular, the formation of professional managers, first of all, in the field of innovations.

- Implementation/rational use of identified pronounced creative and organizational abilities that should be reflected, first of all, in the selection and placement of personnel, taking into account each individual's abilities, needs and aptitudes to carry out creative, initiative and organizational-managerial activities in all spheres of life and at all its levels. In this respect, paramount importance is attached to the creation of conditions for extracting human potential (the formation of flexible organizational structures for dealing with the tasks of innovation character, the allocation of individual grants of a searching type, which is possible even without the establishment of clear formal frameworks (for example, according to the principle described by Kurt Vonnegut in his novel "Cat's Cradle", 1963).

Attention should be also paid to various kinds of out-of-the-box/innovation proposals regarding organizational and managerial solutions in the field under consideration. And, in particular, the idea of establishing the *institute of innovation agents* whose task

is to find scientists-inventors, to assist them in patenting their inventions, to organize and carry out or to help carry out R&D for these inventions and introduce them into production [11]. For these purposes, at the state level, it is proposed to launch a social programme, which will cover most of Russia's regions, this programme will provide the education and training of innovation agents and their subsequent work.

Innovation agent is a special type of person who is on familiar terms with technical sciences and knows the economy, he/she is representative, is able to explain, understands the relevance of innovation development for Russia, and therefore, is highly patriotic, sociable, able to overcome the bureaucratic obstacles, find a common language with a scholar, as well as with a businessman and bring the matter to the conclusion of a contract between them and ensure the launch of the enterprise. In the future, such enterprises launched by innovation agents, may become a source of their income. This may be regarded as a financial incentive for their activity (which, in the initial stages, however, is based on pure enthusiasm).

Generally speaking, any student regardless of his/her acquired specialty may become an innovation agent, however, young people with a diploma in innovation management are most preferable. An innovation agent's task is to overcome the "*communicative abyss* lying

between the inventor and the investor and representing the main problem of innovation", an innovation agent should look for inventors all over our country, assess the innovation capacity of their inventions and connect the inventor with the right investor. An innovative agent is a kind of producer of an inventor's talent, his/her assistant.

An original three-component formula of the country's successful innovation development was proposed by Aleksandr Prozorovsky, Head of the Innovation Centre I5: "*Talented personnel* is the main condition for building a knowledge economy. <...> There should be quite a few inventors, who should be "distributed" evenly on the vast territory of our country – it is the second condition. Sources of innovation ideas should start their efficient work in our country as soon as possible and simultaneously – it is the third condition. Only after finding a significant number of inventors all over the country, uniting them, providing funding and simultaneous work on the creation of innovations, we will be able to gain the "critical amount" of people oriented towards the modernization of Russia, and this will become a bifurcation point, after which the national innovation system will move to a self-sustainable development mode, the real innovation products will be manufactured at the outstripping rate, the decaying raw material inertia will be substituted by the widespread innovation acceleration".

References

1. Analytical information on the state of innovation development of the Primorsky krai. Available at: www.febras.ru/zip_for_site/far_east_innov/analysis_primorye
2. Public-private partnership in innovation systems. Ed. by S.N. Silvestrov. Moscow, 2008.
3. Public-private partnership in education: collection. Ed. by O.P. Molchanova, A.Ya. Livshin. Moscow: KDU, 2009.
4. Dobrynin A.I., Dyatlov S.A., Tsyrenova Ye.D. Human capital in the transition economy: formation, evaluation, efficiency of use. St.Petersburg.: Science, 1999.
5. Zhukov A.V., Fomin A.N. The problems faced by higher education institutions when establishing business entities (small innovation enterprises) in accordance with the Federal Law No. 217-FL dated 02 August, 2009. Available at: <http://oni.ulgov.ru/news/448.html>
6. Innovation Russia – 2020 (Strategy of innovation development of the Russian Federation for the period up to 2020): project. Ministry of economic development of the Russian Federation: Moscow, 2010.

7. Data on the economic entities established by higher education institutions and research institutions in accordance with the Federal Law No. 217-FL dated 02 August, 2009 (26 January, 2011). Available at: [strf.ru > Attachment.aspx?Id=25797](http://strf.ru/Attachment.aspx?Id=25797)
8. Cadres decide everything. The continuous method of searching for valuable employees. Available at: www.apsc.ru/activities/grant/articles/kadry/
9. Knorring V.I. Theory, practice and art of management: textbook for higher education institutions for the specialty "Management". Moscow: Publishing house NORM (Publishing group NORMA – INFRA-M), 2001.
10. Luksha O., Sushkov P. Technology commercialization centre – organizational development: how to create, manage, and organize the monitoring and assessment of activities. In: Science and technology commercialization, 2006.
11. Head of the Innovation Centre I5 Alexandr Prozorovsky answers the questions concerning the activities of the Innovation Centre I5. Available at: <http://www.iiii.ru/index.php/inno-agent>
12. Nikitin M.V. Resource centre as a functional model of continuous professional education (methodical recommendation for a system of improvement of professional skills). Moscow, 2004.
13. The Decree No. 1394-R dated 11 August, 2011 "On the appointments in the autonomous non-profit organization "The Strategic Initiatives Agency for the promotion of new projects". Available at: <http://government.ru/gov/>
14. The results of the work of the Rectors Council of Penza universities. Available at: www.svrec.pnzgu.ru/files/sv_vzaim_rfbs.pdf
15. Russia's strategic answer to the challenges of the new century. Ed. by L.I. Abalkin. Moscow: Publishing house "Exam", 2004.
16. Human potential for innovation economy: coll. monograph. Ed. by Doctor of Economics. S.A. Ivanov: St. Petersburg. IRES RAS, 2011.
17. Electronic source. Available at: www.pprog.ru
18. Ben-Porath Y. 1. The Production of Human Capital and the Life Cycle of Earnings. Journal of Political Economy. 1967. Vol. 75.