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## **Research of Specifics of Management of Regional Development for the Purpose of Observance of Reproduction Proportions**

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### **ABSTRACT**

In this article theoretical and methodological approaches to definition of the region essence are developed. The author has studied the integration processes in regional economic system from a position of an assessment and the analysis of meso-economic systems as sets of spatial and organized structures. The contents and concept of stability of the market considering hardships from the modern globalization are also specified. Results of research provide reasoned and evidential proof to the concept of the region as open multicomponent system of the local markets functioning in the uniform industrialist environment formed by the climatic, social and economic, historical and political and other factors typical for any subject of the Federation. Region also is viewed as the participant of integration process that creates organizational and economic prerequisites of a sustainable development of regional social and economic system regarding improvement of management of the local markets, including the market of ecological goods and services.

**Keywords:** Regional Development, Reproduction, Regional Policy, Sustainable Development

**JEL Classifications:** G32, O30

### **1. INTRODUCTION**

Nowadays the regional disproportions in social and economic development is peculiar for Russia, it is caused by the considerable sizes of the country's territory, the backwardness of domestic market, inequity of the natural resources' allocation, etc. The solution to the problem of a sustainable development of the country in general is impossible without the thought-over regional policy. In our opinion, a basis of providing a sustainable development of the territory is in achieving functional stability of the regional markets, which are carrying out important functions in the course of the region's reproduction; in turn, development of the local (regional) markets is under the influence of the region's development in general.

In modern conditions the increasing distribution gets the non-material approach reflecting the dominating role of the regional

development concept focused on knowledge and innovations not only in scientific but also in the practical sphere that is noted in many countries.

Thus in modern globalization realities processes of an increment of knowledge within science as social institute and culture in general have not only regional, but not even territorial bindings. In this regard, the main reference point of regional development is realization of the innovative technologies that possess territorial coordinate. Thus, the most important source of innovations is the knowledge representing almost unlimited resource out of territories. The said resource's realization is allowed only at the regional level regardless of the scale of innovations. Therefore, economic entities and administrative structures at the regional level possess such factor by means of which it is possible to overcome limitation of the available production resources. These circumstances have played an

important role at adoption of administrative decisions until recently.

Therefore, the subsequent development of regions provides the need of development and deployment of innovative and information technologies that will allow defining the starting conditions for creating prerequisites of region's social and economic condition improvement and stabilization that as a result will allow increasing quality and a standard of living of their population.

## 2. MAIN PART

In economic science innovations are realized by means of:

- Input of a new product;
- Input of a new method of production;
- Creations of the new market;
- Development of a new source of delivery of raw materials and semi-finished products;
- Reorganization of structure of management.

These types of innovations are directly formed at the regional level (thus possibility of use in a set of regions isn't excluded) that causes expediency possibility of innovative criteria usage when determining the region and research of the social and economic reproduction mechanism features.

In particular, this circumstance gains relevance and the importance at interrelation of the regional development focused on knowledge and innovations with a modern form of the competition that testifies that the most competitive regions are capable to attract an escalating share of the domestic and foreign market that allows coordinating innovations and business in spatial aspect.

Therefore, the realization of regional innovative policy is enabled according to the following principles: Unity of scientific and educational processes and their orientations on economic, social and spiritual development of society. There are also: Optimal combination of state regulation and self-governing, concentration of resources on the priority research's directions, carrying out a full cycle of the researches and development, which are ending with creation of finished goods. Variety of the organization forms, providing the competition conditions within formation of innovative programs, and support of business in the scientific and technical sphere.

Thus the purposes of the region's innovative policy on creating the necessary conditions for correlating the regional structure of the "research production" cumulative cycle with optimal value by means of which it is possible to define effect from use of educational, scientific, technical and innovative potentials for development of economy and the solution of social and economic tasks.

Within this purpose it is necessary to solve the following main objectives:

- To integrally combine basic, basic and applied researches with competitive development of commercial character;

- To improve system of planning and financing of scientific, scientific and technical and innovative activity of the subordinated organizations;
  - To create conditions for legitimate and other support of the innovative enterprises and scientific organizations;
  - To support development in the sphere of high technologies that will allow to make goods and services on their basis, and also to plan the directions for an exit to domestic and foreign markets, expansions of the international integration in this area, creations of conditions for attraction of foreign investments; to create conditions for preparation and retraining of personnel in the field of innovations and scientific and technical business that will increase innovative activity, commercialization of results of scientific researches;
  - To develop the legal base governing legal relations in the course of creation of objects of industrial property and copyright (intellectual property), their legal protection and introduction to economic circulation by means of balance of the rights and legitimate interests of these subjects, including carrying out inventory of the results of scientific and technical activity received in the course of an application of funds of the federal budget;
  - To attract additional extra budgetary financial means.
- Generalizing aspects of the theoretical analysis, which is carried out above, it is necessary to draw a conclusion that formation of the concept "region" is based on a number of factors and criteria taking into account their features:
- Territorial and geographical indicators, including location, the sizes and features of the territory, number of the population;
  - The production and functional characteristics reflecting the directions and features of the prevailing productions and kinds of activity of the population;
  - The town-planning lines which are shown in nature of building of objects of production appointment, housing, infrastructure;
  - The social indicators including norms of communication, behavior, cohabitation of the population.

In this regard, it is advisable to consider the region from a position of three components: As organic element of the territorial organization of national economy, as element of moving a system and as element of the social organization of the society reflecting set of spheres of life support and activity of the person, norms and rules.

Speaking about the region as social and economic system which unity is provided with activity of people, it is necessary to pay attention to the most essential – the interrelation of types and structure of production and the income. Thus, development of the region is influenced by a number of tendencies of its subsystems predetermining functioning of three main groups of factors – economic, natural and demographic.

By means of applying the data of region's social and economic development analysis, it is possible to define:

- The general level of production development;
- Estimation of natural resources potential;
- Definition of environment's state;



- Estimation of social and economic development level, taking into account the happening demographic and migratory processes;
- Researches of problems of use of a manpower, movings of the population, level and quality of life;
- Estimations of the reached level of economic development of the region, including the industry, agriculture, infrastructure, territorial structure of economy; determination of potential of interregional and foreign economic relations; estimations of a financial position.

We offered the classification of regions based on resources dominants (innovative and production, financial, ecological and biological, scientific and technical) reflecting specialization of the concrete region (Table 1) within which five groups are allocated and characterized.

The region investor represents the region having considerable volumes of resources for the purpose of implementation of productions and ensuring expanded reproduction at the expense of free money not only in the territory but also in the territory of other regions for obtaining the additional income.

The target region is qualified by the high values on all main indicators of development due to fast increase in production, and the high level of economy development that is positively reflected in quality of life, improvement of a demographic situation. However, such activity has negative impact on an ecological situation.

The sponsor region (donor) is understood as the region, which is rendering assistance in development of underdeveloped (depressive) regions by means of allocation of grants and subsidies, not pursuing the purpose receiving an economic benefit. Indicators of a socio-ecologic-economic sustainable development of this type of regions are stable; the variable-rate premium level is rather high that testifies to positive dynamics of the production having essential impact on quality of life of the population.

The eco region (bioregion) has unique climatic resources in the territory, which houses the insignificant number of the industrial enterprises generating harmful substances. This type of the region is characterized by optimal values of indicators of a state of environment that is followed by processes' aim on protection and improvement of human health by means of an integrated approach to planning and rational use of resources of the region.

Techno-region differs in high degree of concentration in his territory of scientific, research and educational institutions which activity is directed on development of methods and technologies of improving the innovative, technological and production processes. This type of region is characterized by the presence of high-tech production, taking into account all the requirements of sustainable development of territories in the future.

The region depressant is the region which is lagging behind in the social and economic development in all indicators and not capable independently to get out of the crisis. Negative dynamics on the main groups of indicators are observed.

The offered classification allows defining a role and a place of the concrete region in national economy more accurately, as well as the extent of its interaction with other subjects of federation, and participants of world economic system.

Regional economic systems transition to a market economy has led to the emergence of their new functions economically independent market entities, among which should be highlighted:

- Coordinating and lobbying the regional goals, objectives and interests, both within the country and abroad;
- The strengthening and maintenance of the regional competitive position by means of scientific studies of various aspects of attracting investors to the territory and ensuring the effective transformation of the economic structure;
- Creating conditions that encourage the development of regional small and medium enterprises in the region;
- Stabilization and ensuring the expansion of production capacity use of state and municipal property;
- Development of the system of privileges and guarantees in the region to enhance the effectiveness of the business, commercial, innovative structures;
- Promoting and strengthening region's foreign economic relations.

Implementation of selected functions promotes the formation of an effective social, economic and regulatory environment aimed at the observance of the established procedure of granting tariff preferences and encourage the business sector, effective institutional support for food, social, economic and environmental security, which determines the competitiveness of the region.

In addition, currently the main focus of competition between regions of the Russian Federation are implemented state programs and projects containing the order form and parameters of the placement and the territorial organization of the economy, aimed at solving social problems. With the continuous lack of resources, participation and subsequent victory in the implementation of these programs and projects can claim only the regions with the highest level of competitiveness.

In this case, a strong competitive advantage and positions are essential conditions for sustainable development of regional economy. In the context of contemporary globalization comes increased competition in the key areas of interaction, which significantly increases the relevance of the formation and development of economic systems that improve competitive advantage.

Currently, however, the competitiveness of domestic goods and services is low, which makes them small amounts in the structure of international trade. In this process of globalization, together with national, have a significant impact on the economy of the regions, identifying the growing number of participants and the complexity of the relationship links between them.

The principle of economic independence of the country's regions determines the need and presence of the material adjustment to

**Table 1: Classification of the regions**

Nomination	Investor region	Donor region	Depressed region	Bioregion	Techno region
General characteristic	Possesses significant resources for the production and reproduction processes at the expense of free funds, not only on its territory, but also in other regions in order to generate additional income	Assists in the development of underdeveloped (depressed) regions through the provision of grants and subsidies, does not pursue the purpose of material gain	Is slow in its socio-economic development for all indicators and is not able to solve their own problems independently	Possesses unique natural and climatic resources in the territory of which there are practically no industrial plants emitting harmful substances into the atmosphere and whose motto is to preserve and improve the environment	Possesses a high degree of concentration of scientific, research and educational institutions, which are aimed at the development of methods and technologies improve the technology, innovation, and other processes
Resource type	Innovative	Financial	Ecological and biological	Scientific and technical	
Potential rating indicators	<ol style="list-style-type: none"> <li>(1) The proportion of investment in fixed assets in GRP;</li> <li>(2) The share of public investments in the GRP, which reflects the stable social and economic development;</li> <li>(3) Investment indicators that reflect the level of socio-economic development of the region as a whole and its ability to help other regions;</li> <li>(4) The main socio-economic indicators, and others</li> </ol>	<ol style="list-style-type: none"> <li>(1) The ratio of the rate of growth of GDP and GRP;</li> <li>(2) The number of the economically active population employed in the economy and the unemployed;</li> <li>(3) The proportion of the volume of fuel and energy complex;</li> <li>(4) The main socio-economic indicators;</li> <li>(5) Socio-economic indicators of quality of life</li> </ol>	<ol style="list-style-type: none"> <li>(1) Consumer price indices and average consumer prices for goods and services;</li> <li>(2) Demographic indicators;</li> <li>(3) Socio-economic indicators of living standards;</li> <li>(4) GDP and GRP;</li> <li>(5) The balance of incomes and expenditures of the population;</li> <li>(6) The average per capita income;</li> <li>(7) Indicators of labor (wages, social security, etc.);</li> <li>(8) The main socio-economic indicators;</li> <li>(9) Socio-economic indicators of quality of life</li> </ol>	<ol style="list-style-type: none"> <li>(1) Indicators characterizing impact of economic activities on the environment: Emissions, etc.;</li> <li>(2) Investments in fixed assets, including environmental protection and rational use of natural resources;</li> <li>(3) Commissioning of capacities for the protection of water and air pollution;</li> <li>(4) Special costs associated with environmental innovation;</li> <li>(5) The proportion of organizations engaged in innovation, providing better environmental safety in the production of goods, works and services;</li> <li>(6) Climatic resources' indicators</li> </ol>	<ol style="list-style-type: none"> <li>(1) The number of organizations engaged in research and development;</li> <li>(2) The number of employees engaged in research and development;</li> <li>(3) Indicators of the research training;</li> <li>(4) Innovation indicators;</li> <li>(5) Financing of science from various sources;</li> <li>(6) The special costs associated with environmental innovation;</li> <li>(7) The number of established (developed) advanced production technologies;</li> <li>(8) The share of organizations engaged in technological, organizational and marketing innovation;</li> <li>(9) The proportion of organizations engaged in innovation, providing better environmental safety in the production of goods, works and services;</li> <li>(10) The number of educational institutions of higher education</li> </ol>

GDP: Gross domestic product, GRP: Gross regional product

their financial and economic development. It is so because the durability, stability and balance of the regional economy are directly dependent on the presence of a given territory of the social-economic, scientific-technical and personnel potential, causing the investment attractiveness of the region for the deployment of new and reconstruction of existing facilities, creating additional workplaces.

The concentration of capital in a particular region is no longer determined centrally adopted industry regulations and are fully dependent on the competitive position and opportunities of the region, on the efficiency of the management in determining the prospects of their capacity. The scope of the refractive index of the enterprise capital is where feasible and economically justified to place competitive production and create profitable businesses. To this end, each region needs to assess their own competitive position and opportunities for the involvement of the region in

the implementation of targeted programs of placement and the territorial organization of the productive forces.

In this connection, taking place in the system of regional economic integration process should be considered from the perspective of evaluating and analyzing the success of the economic systems of the region, the operation of which determines the need to achieve the objective of sustainable and balanced development of regional economy, increasing its competitiveness (Zakharova et al., 2015).

We'll agree with the position of the researcher, that "... the competitiveness of the regional level cannot be considered without assessing the availability and efficient use of various types of infrastructure" - from production to market. It is a complete infrastructural security of the region that means that the potential of the region could turn into its true competitive possibilities, and then be implemented in the region's competitive advantages over

other regions. The institutional component of the competitiveness of the region is becoming a major factor in streamlining relations between economic entities of the region and the effective use of the main components of competitiveness.

On this basis, perhaps the more detailed definition of the regional economic system competitiveness is required. Such a determination, in particular (Dyachenko, 1999), is based on a systematic analysis of a variety of known theoretical and institutional features of the competitiveness of their elements (objects, entities, properties, areas, conditions and others). Then the composition of the integral elements in the synthetic generalization of the concept of competitiveness of entities or regional economies. The competitiveness of economies is presented as a ratio of commodity production and market comparisons of utility costs and benefits of their (economic system) goods and services among peers, substitutes (substitutes) and substitutes sold in a particular market in conditions of free competition and the lack of protection (Novoselov, 2009).

Such an approach should highlight aspects aimed at the formation and deepening of research methodology competitiveness of the region as an economic category:

- Competitiveness of the regional socio-economic system is closely linked to the relationship in the process of commodity production; therefore, it is appropriate to consider it as the main result of industrial activity in the region;
- On the basis of a comparison of the competing options of commodity production, the degree of its usefulness, the size of the cost, the profit dynamics regions that are most effectively and efficiently use the limited resources are being identified that determines their leading position in the relevant market of goods and (or) services.

In the study of various aspects of the competitiveness of the Russian regions, the question of a free competition without protectionism immerses, since protection from the state in the form of inter-regional reallocation of funds should be assessed as part of the regional policy. In the case where there the state provides individual regions with the number of advantages, without adequate feasibility studies, there is the complication of inter-regional relations, unattainable goals, formed extremely unfavorable for the realization of market relations background.

Thus, we agree to the position of the researcher, on "... the competitiveness of the region as an economic process is a set of complex and contradictory relationships that are affected by many diverse conditions, both objective and subjective:"

- Factor conditions of production (supply of the region natural resources, skilled personnel, advanced material and market infrastructure);
- General economic conditions (development of branches of material production, environmental security, the degree of depreciation of fixed assets, etc.);
- Factors of demand for the products of basic industries in the region;
- Social, socio-cultural, organizational, legal, political, factor conditions, and others.

The impact on the competitiveness of the region has both the general economic situation in the country, as well as the specifics of individual industries, complexes located on the territory of the region.

In this case, the stability of the region's competitive position is directly dependent on the socio-economic, scientific-technical and personnel potential. It turns out that if the competitive position has signs of reliability and stability, it determines competitive advantage, providing the region win the competition in the relevant competitive field (trade, financial, investment, etc.).

Therefore, the competitiveness of the region is formed to enhance the positive state of the phenomenon through the development and the development of competitive capacity and the formation of an adequate this potential economic order in the territory, taking into account the implementation of capacity development of institutional support for regional processes (Novoselov, 2009; Karepova et al., 2015).

Thus, starting from the principle of using the thesis that modern Russia is characterized by regional disparities in socio-economic development due to spatial, natural-geographic and resource differences, economic, socio-cultural, specific historical, political and ethnic factors, as well as insufficient level of development of the internal market and addressing sustainable development is impossible without a balanced regional policy scientifically verified. According to the author, the importance of the development of local markets to strengthen the regional economic system is the most important criterion for its sustainable development.

To summarize, it should be noted that throughout the XX century the regional economic development paradigm was formed and developed, characterized by a wide variety of approaches to the concept of "region," which requires its refinement and additions. From the perspective of economic geography, the region is presented as part of the territorial organization of society, reflecting the individual characteristics that distinguish a particular area of the other, a variety of regional elements that characterize the territory from the perspective of a systematic approach (Karepova et al., 2015).

From the perspective of the institutional approach, the concept of "region" is considered as the minimal-necessary area, endowed with powers of planning and programming of their own development. It depends on the availability of appropriate economic and social object, with respect to which the applicable regulatory measures are used, and the presence of scale territory demonstrates the need for the creation of a special power-management instance, which have power of coordination process to identify development priorities.

In terms of the theory of regional economy of the region is represented by a set of natural resources and population, production and consumption of goods, services. At the same time, it is considered inadequate as the subjective side of the support of special economic interest.

Thus, the domestic experience shows that the basis of theoretical and applied aspects of the development of regional markets has traditionally been a theory of reproduction. In the framework of the present study, reproductive processes at the regional (local) level, have value, manifested in the form of organization of production within the same territory. Which also carries out the processes of distribution, exchange and consumption, in which there is continuous gradual transformation passing resources of various kinds, which ultimately will lead to meeting the needs of economic agents and the population of the region at the expense of the sustainability of economic development.

### 3. CONCLUDING REMARKS

In the period of globalization processes the increasingly intense competition in the key areas of interaction is monitored, it indicates the actualization of the formation and development of economic systems, which are aimed at increasing competitive advantage (Zakharova et al., 2015; Novoselov and Novoselov, 2015; Novoselov and Novoselov, 2015; Novikov et al., 2015; Klochko and Novikov, 2013; Klochko, 2012). It should be noted that the competitiveness of Russian goods and services is low, as evidenced by their minor amounts in the structure of international trade. However, globalization has an impact not only on the national economy, but also affects the economy of the regions, thereby determining the increase in the number of participants and complicating the relationship links between them. Thus, the characteristic of the regional economy integration processes include evaluating and analyzing the success of socio-economic systems of the region, the functioning of which is aimed at achieving vector sustainable and balanced development of the regional economy by increasing its competitiveness.

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## **Controlling System as a Key Factor Energy Management of an Industrial Enterprise**

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### **ABSTRACT**

In this article the methodological elements of the energy management of an industrial enterprise; reveal the organizational aspects of the formation of industrial plants for energy management, energy auditing and controlling; the proposed organizational and functional structure of the analytical laboratory for energy efficiency. In order to create energy-saving systems in any enterprise in its activity it is necessary to introduce energy management, which provides an integrated approach to structural savings of various kinds of energy. Energy management from a broad perspective can be seen as an instrument of general management with a universal set of controls energy consumption and costs to obtain it. With a narrow point of view of energy management - is planned system control and accounting of energy flows in order to minimize energy costs. An important aspect of the implementation of energy management issues are consulting on energy efficiency in the work of sound methodological framework for the management of energy resources, which should be consistently implemented at two levels - technical and managerial.

**Keywords:** Energy, Industry, Controlling, Management

**JEL Classifications:** M11, P28

### **1. INTRODUCTION**

Experience in industrialized countries has defined conceptual approaches to the management of energy resources with a view to their optimization. These approaches combine both the legal, organizational, economic, geographic, demographic and other aspects. We believe that these aspects depends on the database management tool, including energy management, energy audits and monitoring. The effectiveness of any socio-economic system, the solution of many problems of social development in a period of restructuring of the economy is directly linked to the extensive, detailed assessment procedure to mobilize resources and, in particular, the results of human activity. And it is important to note that the analysis of the impact of the production system depends on two interrelated positions - objective and subjective. The objective reflects the possibility of the system itself, and a subjective stance characterizes a person's ability to use these features. Thus, the effect of the current system is determined by

the degree of utilization of its total capacity and effectiveness is dependent on the value of the use of the existing potential (Shatalova et al., 2014).

### **2. RESEARCH METHODOLOGY**

The study used an integrated methodological approach to the problem of combining classical instrumentation system, resources and effective approaches. Resource-based approach that involves the totality of the available resources of an economic entity, in the direction of their integration is the goal - the choice of resources; interconnection of resources, that is, resource-based approach does not exist without a targeted approach. Effective approach, as well as at the stage of resource potential, and at the stage of its use, it involves target setting (this selection of key resources, and identifying the most appropriate forms of the pooling of resources, and the identification of possible rational and efficient

use of resources, etc. (Algina and Bodnar, 2011; Chebykina et al., 2013; Shatalova et al., 2014 and Shatalova, 2014). The very same productive approach, which is treated as an opportunity, the ability of the economic entity to engage in the manufacturing process resources, factors of production, to a greater extent reflect the administrative aspect in the study of the economic category of resource potential (Shatalova, 2014). Thus, efficient approach takes into account the total resources as a system, and all the factors of production, which can ensure the efficient functioning of the system. In identifying the key feature of sample resources, the authors identify the immanent and the transcendent property resources. Immanent property resources is manifested in them in an objective ability to complex and interrelated to cooperate in the framework of the material conditions of the resource potential. Transcendent resource properties manifested in the fact that they act as the subjective sources, coordinating and organizing the inherent quality resources. Transcendental resources in its subjective form of sample organizational conditions of the resource potential. Category "resource potential" is considered by the authors as the material conditions for the reproduction quality of its basic structural elements of a complex and dynamically interacting with the organizational conditions for the purpose of stable operation of the enterprise in market conditions (Shatalova, 2014).

His essential characteristic of selected methodological tools manifested in such management practices as a system, process, integrated, economic, adaptive, situational (Table 1).

### 3. MAIN PART

In order to create energy-saving systems in any enterprise, its activity is necessary to introduce energy management, which provides an integrated approach to structural savings of various kinds of energy. Energy management from a broad perspective can be seen as an instrument of general management with a universal set of controls energy consumption and costs to obtain it. With a narrow point of view of energy management - is planned system control and accounting of energy flows in order to minimize energy costs.

At the heart of the energy management system approach should be used, which includes seven consecutive stages: The system (dynamics) analysis of the general situation of energy consumption in the company; monitoring and assessment of the situation at the present time (in fact); decision-making process on the implementation of energy management; recording of energy consumption; monitoring and evaluation of energy consumption; informing about the results of the management and staff; development of measures for the organization, technology, and behavior.

An important aspect of the implementation of energy management issues are consulting on energy saving (Chebykina and Bobkova, 2013). Such counseling should include the steps of the first two stages and provide a deep understanding of the situation and the purpose of stimulation of workers and businesses on the effective implementation of energy management.

When advising on energy saving must be the ability to convince people suspicious of the very idea of rational use of energy; attract

employees, supports the introduction of energy management, prioritizing correctly and keep a job for the collection of energy consumption, monitoring and evaluation of energy consumption.

The key point for the majority of energy saving projects are competent consulting (Chebykina and Bobkova, 2014). Initial conditions and the possibility of introducing energy saving programs differ in every company. The main goal that the organization wants to achieve, is to limit the emissions into the atmosphere CO<sub>2</sub>, SO<sub>2</sub>, NO<sub>2</sub>. One way to accomplish this is to urge consumers to reduce energy consumption. The purpose of energy management can be defined as the rational use of energy. And this goal should not be limited only to the adoption of energy-saving measures, a systematic approach is needed for energy management.

In the process of implementing an energy management plan included our goals, tools (the need to collect information). This process is an exemplary model and available for further development.

1. System (dynamics) analysis of the general situation of energy consumption in the company. Ego goal - to provide in the form of tables and diagrams the situation of energy consumption and the cost of its consumption.

To do this, you must collect information on consumption and energy costs over the last 5 years: Data counters, vendor accounts and administrative data. What follows is an analysis of consumption and costs of energy consumption with the existing calculations so that demonstrate cost savings or cost overruns.

In order to obtain results of analysis required to bring the ratio of energy to the volume and number of residents of the building, thus it is possible to receive indicators of comparison. Then you should compare energy consumption of a particular building with national figures in similar conditions. Then, the data on energy consumption for heating to adjust according to climate data, this method can be used degree-days, giving the chance to compare data for a number of years. After that need analysis of monthly energy consumption of suppliers' invoices for the full year.

The structure and content of the contracts of suppliers of energy, you can define the parameters for the analysis and assessment of the situation at the current time. If you have multiple sites that need to estimate energy consumption, we should define the priorities.

The data needed for this process: Consumption of gas, electricity and oil products per year and compare them over the past 5 years, the data on the electricity needs, according to the meter reading for the previous calendar year, the data on the volume of buildings, total area, number of users, operating expenses and incomes.

In order to obtain these data, it is advisable to use the request form, which is filled on the basis of the accounting of energy companies. However, there are rare cases of misreporting.

**Table 1: The relationship of methodological approaches in the study area**

Methodological approaches	Brief characteristics
Economic	It determines the most economical management of the organization The effective approach manifests itself in the definition of a rational structure of the resource potential (i.e., To reduce the proportion of the cost of the building blocks of capacity; to improve the efficiency of their use)
Complex	It involves consideration of all components of the control system - goals, objectives, operating conditions, management strategy and development The effective approach is manifested in the quantitative estimates of the efficiency of integrated management of the resource potential of the system
Adaptive	It involves the construction (organization) of the mobile control system, which, with changing internal and external conditions, the flexibility to change and capable of determining, in turn, prompt adaptability to business instability of the environment The effective approach manifests itself in the modified building blocks of the resource potential, production factors affecting its formation as a function of changes in the external and internal conditions
Process	It assumes control of the system considered as a series of interrelated activities (functions) each of which by itself is a process The effective approach manifests itself in the target setting for the pooling of resources for the optimal use of resource potential, which implies functional actions of managers to plan, organize resource base of economic entity, as well as the implementation of the organizational and economic processes efficient use of the resource potential
System	Suggests to consider the organization as an integrated system, all elements of which are interrelated. Each indivisible (as part of) brings its own characteristics into the overall system. Any system has inputs and outputs The effective approach manifests itself in the target system settings at the entrance (the identification of the resource base of the subject), which in a functioning system can be taken as a result of (fact) and in targeted results at the output of the system (effective use of resource potential)
Situation	Assumes the specific situation, the conditions of the internal environment and the external environment in which the system operates. This approach reflects the quality of management of the organization, i.e., It is an essential part of the system approach The effective approach is manifested in the regrouping of the resource base, production factors influencing the resource potential for the realization of the possibility of providing flexibility in the development of a changing market environment

During the initial phase it is necessary to establish a list of data on the consumption of energy provided by the accounting organization, as well as to assess the reliability of the information obtained, to develop a form of inquiry and reporting system.

It is important stakeholder organizations in providing reliable information. Join energy consumption calculations and accounting - basic conditions for implementation of energy management at this stage.

2. Monitoring and assessment of the situation at the present time (in fact);

3. The decision making process on the implementation of energy management. The purpose of this step - the introduction of energy management; achieving cooperation with the management policy and the organization of energy management; increasing the responsibility of employees for the implementation of management.

To achieve the goal you want to convince workers of the need for energy management on the basis of the analysis of energy consumption. This can be achieved by using reports and assessment of the situation by the staff. The following is to propose measures to reduce costs and justify the benefits obtained.

Management must decide how to implement energy management in the activity of the enterprise, it is tasked with the implementation

and realization of the plan. Consideration should be given a clear policy with specific objectives. This approach contributes to the popularization of the idea of energy management.

Energy management should start with the definition of priorities. Why do you need information about the absolute and relative level of energy consumption in comparison with national indicators; of previously adopted measures to save energy; and the impact of these measures; the technical condition of the buildings.

In cases where the detected high levels of energy consumption for individual production processes, the solution of these issues must first be addressed.

It is obvious that the solution of a single problem leads to other changes. Thus, after the insulation of the building there is a problem with the calculation of new power heating network, etc.

Foreign experience shows that the introduction of energy management enough 3-5% annual cost of overall energy consumption (Algina and Bodnar, 2011). The costs of 3-5% is acceptable, since the regulation of power allows you to save only 10% through the introduction of energy management. The payback period is around 6 months.

In general terms, the main responsibilities of the manager of the electricity needs are to establish the accounting system of electricity consumption, the analysis of energy flows, calculating

and monitoring standards of energy consumption, reporting on energy consumption, the development of proposals for new technologies, according to the investment policy, the calculations of capital investments, the analysis of energy consumption position of power saving, the development of measures to improve the process, maintenance and equipment operation modes.

The manager can work on energy consumption at the company part-time or full-time, however, if the work is 20 h a week, it is advisable to have a specialist qualification, corresponding to the profile of energy management. In such case the manager for energy consumption must meet certain requirements: Possess communication skills, be capable of organizational and individual performance, be able to analyze, to have a technical background.

4. Fixing energy consumption: Management together with the manager on energy solves the problem of what data is needed. The goal - to collect information on energy consumption to get an idea about the ongoing situation in the enterprise and evaluate the effectiveness of interventions.

As a result of constant registration of data on the energy consumption can be determined with the frequency of consumption, compare the data with the same period last year and with the rules on energy consumption.

5. Monitoring and evaluating the energy consumption in practice means that the actual level of energy consumption is monitored on the basis of norms. The easiest method for determining the standard is to take a decision for the standard level of consumption during the same month last year. Define standards on energy consumption required to consider certain aspects: It is impossible to set a low level of the standard, as this can lead to frustration and subsequent adjustments. Standard for the month should be set no lower than 10% of the level of the previous year. After the implementation of energy-saving measures should be made taking into account the adjustment to the standard economy.

6. Reporting: The data resulting from the previous steps, you must submit a report to the board, management, users of the building. However, management should not receive unrelated information. Therefore, it is advisable to provide information in the following forms.

Monthly Bulletin of energy consumption: By means of this report on energy manager reports the results for the month, analysis, changes in the level of energy consumption, measures to reduce this level. The bulletin can be used to inform employees or tenants. The newsletter can find ways to save energy.

Quarterly reports: With their help, the manager on energy management reports on the status of implementation of energy-saving measures.

The annual report includes a reflection of the results and targets. The report is the group management and energy management. This form of reporting is an effective tool for tracking feedback on the measures taken to save energy. This report should be

focused on different groups of consumers of information. They can be classified into the following report users: Top management, accounting, middle management, and various workers' councils.

The annual report includes the following sections: Analysis of the rational use of energy, indicating the reasons for the increase or decrease in the level of electricity consumption, baseline energy consumption for existing equipment, adjusted the fuel and energy balance, the list of priority policy of energy conservation, long-term energy-saving measures. The annual report cannot be made in abbreviated form, as to prepare it requires information and experience on energy management.

7. The development activities for the organization, technology, and behavior. Energy management studies and regulates the organization, technology, and behavior. The realization of events occurs in one of these areas. High result can be achieved if the measures carefully thought out and balanced. Organizational measures include: The organization of activities, cleaning, rational use of contracts, signing requests, demanding reports on the measures taken, monitoring of maintenance by monitoring on the basis of data on the consumption of energy, methods of setting up the equipment, to attract employees to register complaints.

The second element in the conceptual approach to energy management system controlling the activities of an industrial enterprise is an energy audit. Controlling provides the ability to perform and analyze energy use and its cost, to determine the place of their irrational use and on this basis, the company offers energy-saving program (Galkina et al., 2015; Shatalova and Zhirnova, 2014). The objectives of the energy audit include assessment of energy consumption in the organization and development of measures to promote energy-saving projects. On the basis of this information should be compared with the various companies belonging to the same industry.

The methodology of the energy audit includes six stages:

1. Calculation of energy consumption and costs: The examination of the enterprise carried out by analysis of information on energy consumption, drawing up an action plan.
2. Calculation of energy flows: The formation of the balance of energy, determination of the main consumer areas and possible energy savings.
3. The study of energy flows and the proposal of measures to reduce energy consumption.
4. Development of energy saving projects - study of proposals for reduction of energy costs, a comparison of alternatives and selection of the best deals.
5. Analysis of energy-saving projects by assessing the effects of the implementation of projects, their appropriateness, cost and payback.
6. Presentation of the results: The formation of the written report on the results of the energy audit of the administration.

Energy audits should not be seen as an exclusively technical problem. It should contain the legal and economic justification. "Rules of conducting energy audits of organizations" regulate



energy audits organizations to determine the effectiveness of the use of resources and should be subjected to such surveys all companies where energy consumption is more than 6 thousand tons of standard per year, with a periodicity of inspections not less than once every 5 years (Shatalova, 2014).

The energy problem is the lack of organizational structure, which is responsible for energy efficiency at the company. Position refers to the energy manager managerial positions and can not find an understanding without the presence of management thinking (Shatalova and Grachova, 2014).

Energy conservation measures require investment, but it can be cost-free, requires no investment in new equipment, but allow to change working methods. The cause of long-term projects may be not only a decrease in energy consumption, but also new products, production growth, reduction of environmental pollution. The introduction of low-cost measures is not possible without an understanding of energy use in the organization, and without the control of the process.

Thus, the instrumental framework for energy management should be consistently implemented at two levels - technical and managerial. The purpose of the technical - the creation of an information system. Here we include energy audits and monitoring. The purpose of the management level - the creation of management structure that is responsible for information security and the development of necessary actions, again on the basis of monitoring. i.e. controlling is an intermediate element in the conceptual approaches to energy management, which we define as a kind of remedy (method, mechanism) provides a comparison of the results (information) with the tasks (activities).

It should be noted that at the present time, the current law provides that a program of regional and municipal levels in the field of energy saving and energy efficiency should include a list of target indicators in the field of energy efficiency. We propose to classify them according to seven groups: The complex indicators in the field of energy conservation and energy efficiency in view of targets; Indicators in the area of energy savings and energy efficiency, allowing to determine the savings for each type of energy, taking into account the target systems; Indicators in the area of energy conservation and energy efficiency in the public sector in view of targets; Indicators in the area of energy savings and increased energy efficiency in the housing sector in view of targets; Indicators in the area of energy conservation and energy efficiency in municipal infrastructure to the target systems; Indicators in the field of energy saving and energy efficiency in the transport sector; Other target indicators.

We believe that a certain set of methodological presented figures may be included in the controlling and accounting functions of energy management tools. But for more in-depth analysis of the current and strategic tasks of managing energy resources, as well as to assess the effectiveness and quality of the energy management required more complex indicators, which may be included in the monitoring and in the energy audit.

In this regard, we agree with the view of a number of researchers (Algina and Bodnar, 2011; Chebykina et al., 2013; Chebykina and Bobkova, 2013; Chebykina and Bobkova, 2014) which proves that generalizes the criterion of efficiency of the energy enterprise is - maximum energy efficiency (Formula 1):

$$TF = C0 - \Delta PE + R (EIT + OST + nn + \text{and} (Rn + Dr)) \quad (1)$$

where the kilowatt-hour (Gcal)/RUB

Rn - revenues from sales on the energy power technology services;

Dr - proceeds from the sale of energy generated at its own facilities;

and - other costs associated with violations of reliability and quality of the external power supply;

Poise - the full cost of maintenance and energy management;

PTA - purchase costs of energy fuels;

EPZs - the cost of purchasing power;

Ex - supply power to external markets;

$\Delta PE$  - loss of energy generating installations, transforming plants, electrical and heating systems of energy facilities;

C0 - the amount of the purchase price and the volume produced at its own facilities of electricity and heat (for personal customers).

In the presence of enterprises combined heat and power plants cogeneration amounts of heat and electricity in the index Eph legitimately measured in the same units. In particular used in practice  $1 \text{ kW/H} = 680 \text{ kcal}$ . Energy efficiency should be analyzed over time.

So Formula 1 in the complex takes into account such factors that determine the effectiveness of energy management - it is energy efficient, economic exploitation of power facilities, fuel suppliers optimal output and energy, the energy potential (own). But for analysis may need additional parameters. The coefficient of efficiency of the energy business (Formula 2):

$$K_{eff} = De + DR / Ip \quad (2)$$

where,

De - the income from sales of electricity. (Thermal power) received from its own generation;

DR - income from sale of technological services;

Ip - enegosnabzheniya full costs (the cost of products- in the calculation of the period)

Coefficient of independence of electricity and heat (Formula 3):

$$KH Su = / (Su + Bn) \quad (3)$$

where

Su - the amount of own electricity generation (heat) for the accounting period;

Bn - the amount of the purchase of electric or thermal energy;

The participation rate of secondary energy resources in the energy supply company (Formula 4):

$$Ku = BB / (Su + Bn), \quad (4)$$

where

BB - volume production of electric (thermal) energy on the basis of secondary energy companies.

#### 4. CONCLUDING REMARKS

New strategies of enterprises in the energy markets require restructuring of the energy, and therefore the problem becomes particularly relevant design and implementation of appropriate institutional frameworks. We consider it expedient to electricity, the formation of specialized industrial enterprises of power management and its structural analytical division - namely, the analytical laboratory. The main functions of the analytical laboratory are: Overall management of energy supply in the factory; organization of work for the implementation of progressive technical solutions in terms of energy savings in the introduction of new and operation of existing power plants and systems, as well as to improve the utilization of secondary energy resources; the implementation of heads of departments of the plant monitor the performance of all elements of the management system of energy saving; organizational and methodical work on the preparation of administrative decisions regarding energy efficiency and control over their implementation; development of regulations, guidelines, procedures, and other regulations in relation to work on energy saving; organization of development and feasibility study of the current, medium and long term plans to reduce the cost of fuel and energy resources.

In general, the study conceptual approaches to energy management, we can conclude that they are reduced to three

interconnected elements - energy management, energy audits and monitoring. In this work, these elements were considered by us to a greater extent on the level of the enterprise, as the company is, in our opinion is a kind of "catalyst," which reveals the desirability and feasibility of implementation of various mechanisms at the regional level.

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# Features of Formation and Realization of Resource Saving Measures Complex Aimed to Solve Social, Ecological and Economic Problems of the Russian Construction Industry

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## ABSTRACT

This article deals with the ecological aspects of the construction industry, the resource saving and ecological security management issues in construction, operation and maintenance of facilities. Rational natural resource management and resource saving measures may be considered the economic development goals of top priority. In order to effectively tackle the relevant issues, the authors suggest new approaches to forging the resource saving mechanism, including the creation of a national standard based on the international "green" certification systems in line with the unique features of the Russian construction industry. This mechanism, relying on the world practical and academic experience and supported by the government by means of various incentives and benefits, is intended to become an efficient instrument in settling the environmental issues of the modern construction industry.

**Keywords:** Resource Saving, Mechanism, Sustainable Development, Ecological Certification

**JEL Classifications:** P20, Q00, Z13

## 1. INTRODUCTION

The construction industry ranks among the main industries with the biggest impact on the environment. The process of construction, comprised of building a facility, producing and utilizing construction materials, operating and later demolishing the facility, affects the environment in all its entirety in a thoroughly negative way.

The construction industry features a great variety of requirements and rules, such as SNIPs (Russian Building Standards and Regulations), SPs (Russian Building Codes), GOST (Russian Interstate Standards) as well as other construction regulations. The first step of every construction project is assessing the facility cost, reviewing its safety, sustainability, life and functional characteristics. Only then are addressed the issues of ensuring environmental security, which afterwards results in inefficient natural resource management in the construction field and accumulation of environmental damage.

Nevertheless, slowly but steadily, the fact that the environment cannot resist the growing impact forever is gaining acknowledgment.

The construction industry has a far-reaching impact on the ecosystem both directly and indirectly: The extraction and exhaustion of natural resources (raw materials, fuel, water, land resources), atmosphere pollution, condemnation of land for construction purposes, water pollution, affecting groundwater and natural landscapes, accumulation of waste, extirpation of animals and plants, decrease in biodiversity, deforestation, marsh drainage, interference into flora and fauna habitats, global warming, generation of municipal solid waste, degradation of population carrying capacity, increase of anthropogenic load on the area (Astaf'eva and Potapova, 2015). All these factors account for greater focus of the society on the environmental aspects of human activity.

It is also important to underscore the complexity of the construction industry structure, which includes not only technology, production and organization aspects, but also the social ones reflected in the relationship with the external and internal environment of the industry in question. Therefore, the development of a new approach to creating a resource saving mechanism requires due attention to all interrelations within the construction industry

structure in terms of interaction both inside construction companies and between production process and social environment.

Russia is one of the countries with the biggest reserves of energy resources in the world, which has led to extensive utilization of natural resources and highly energy-intensive production. Irrational use of natural resources in its turn results in economic, ecological and social problems, the abundance of which may jeopardize the sustainable development of the country's economy. Thus, rational natural resource management and resource saving have become crucial goals of the economic development.

Given the present economic environment for the market economy development, the resource saving management is undergoing significant changes. They are connected with the economic pattern transformation, market environment, types of ownership changes and new economic relations. In industrialized foreign countries, resource saving, and above all energy saving, is one of the key aspects of enhancing economic efficiency (Stelmakh, 2010).

## 2. MATERIALS AND METHODS

Therefore, we conclude that the existing resource saving mechanism has become obsolete and needs updating and improving. Abroad, for example, the most advanced method of increasing ecological compatibility in the construction industry is ecological certification by the so-called "green" standards, with LEED (Leadership in Energy and Environmental Design, USA), BREEAM (BRE Environmental Assessment Method, UK) and DGNB (German Sustainable Building Council, Germany) being the most popular ones (Astaf'eva and Potapova, 2015; Potapova, 2015). The international systems are rather complex and firmly grounded in the legislation, documents, standards and other regulatory documentation of the associated countries, which generates a lot of different problems with their implementation. In Russia, the legislation regulates the terms and means of production, improvement and reproduction for the sake of rational resource management (Astaf'eva, 2013; Astaf'eva, 2014), but does not fully represent their application in terms of transition to resource saving industrial management principles in various sectors of the economy.

Certification systems lay foundation for promotion and realization of the state-of-the-art technologies, solutions, materials; for developing innovations and evaluating their effect. It is a standardized yet comprehensive approach to assessing various buildings (Skladova and Dimitrov, 2014). Construction in line with the voluntary certification system principles allows addressing several issues simultaneously: Ensuring the safety, quality, comfort, sustainable and cost-effective facility.

In the Russian Federation as well as abroad, there exist various environmental certification systems; however, they are quite inferior to the foreign ones in terms of quality, comprehensiveness and employment.

Having analyzed various academic approaches to and studies on the "green" construction, we come to the following conclusions:

- "Green" construction and certification by environmental standards is a relevant and efficient tool to reduce the negative impact of the construction industry on the environment;
- "Green" construction has crucial environmental, social and economic benefits;
- There is a variety of international and Russian certification systems with the international standards being superior to the Russian ones;
- Despite the popularity and acknowledgement of the standards, there persist certain hindrances to their implementation;
- The level of the "green" construction development in Russia is much lower than the global one;
- It is essential to create national standards in line with the unique features of the Russian construction industry as well as the special characteristics of the national legislation and market.

An important role in construction belongs to office buildings, where an average person spends from 7 to 9 years over his/her life. There is a great variety of professions, but the vast majority of employees in developed countries tend to work in office buildings. Therefore, the office can be considered a sort of social environment. Ventilation, air-conditioning, heating, water and electricity supply, office equipment, transfer to the office, materials etc., not only the construction of an office building, but all the activities performed in the office have a far-reaching effect on the environment. Office buildings consume enormous amounts of resources both at the construction stage and during operation and maintenance. This makes strict regulations, environmental management, best practices and requirements that exceed public building codes particularly important. Modern buildings require a brand new level of construction implying environmentally efficiency and convenience.

One of the main goals of the "green" standards is developing the type of environment that would be both user - and ecofriendly to the utmost. Apart from construction requirements, the standards also regulate further operation and maintenance of the facility.

The greening of offices makes it feasible not only to reduce negative impact on the environment, but also to improve working conditions and cut down expenses. A properly designed and set ventilation system, for example, allows sparing electrical energy, lowering the concentration of air pollutants and oxygenating the air. Hybrid ventilation and air-conditioning systems offer maximal natural ventilation and minimal heat losses due to heat recuperation (Lukyashchenko et al., 2013).

## 3. RESULTS

The principles and approaches, experience and best practices of the Russian and international environmental certification can become a solid basis for a unified universal resource saving mechanism. Its universality suggests the implementation of the same mechanism in buildings of different types regardless of their location and functional characteristics. The mechanism itself, due to a large amount of various optional criteria and requirements, can be adjusted in accordance with external and internal conditions. The sole limitation to the mechanism would be the climate, which



however would only affect the efficiency and performance of the mechanism. The main stages of developing a national “green” standard are illustrated in the following flowchart (Figure 1).

Unobliging criteria add points depending on their relevance. The total amount of points determines the level (rating) of a facility, suitable for comparing two facilities, as the more requirements are met – the more goals are achieved and the higher the rating gets. At the same time, the breakdown of points and their amount are supposed to clearly represent the sustainability and environmental compatibility of a facility.

A positive aspect of the mechanism would consist in state support including various incentives, benefits and other preferences for facilities utilizing the mechanism. One example of such benefits could be reducing energy prices for the facilities, which cut down own energy consumption by 15%. Such crucial instruments for economic activity regulation as the investment, monetary, fiscal, price, legal and regulatory, administrative and managerial, strategic planning, information and stimulating ones, provide support to organizations, but also restrict and supervise them setting a line of development for their natural resources saving activities (Bayanduryan and Lushnikov, 2012; Cherdakova, 2013; Brodach and Eames, 2013). Another beneficial factor for the development and promotion of this system would be its mandatory implementation at certain facilities, for example, in administrative districts or communities, in big schools or universities.

It is important to emphasize that this mechanism is in full compliance with the sustainable development agenda because

it includes economic, environmental and social aspects. The environmental ones imply rational natural resources utilization, increased efficiency as well as energy and water consumption, transfer of waste for recycling.

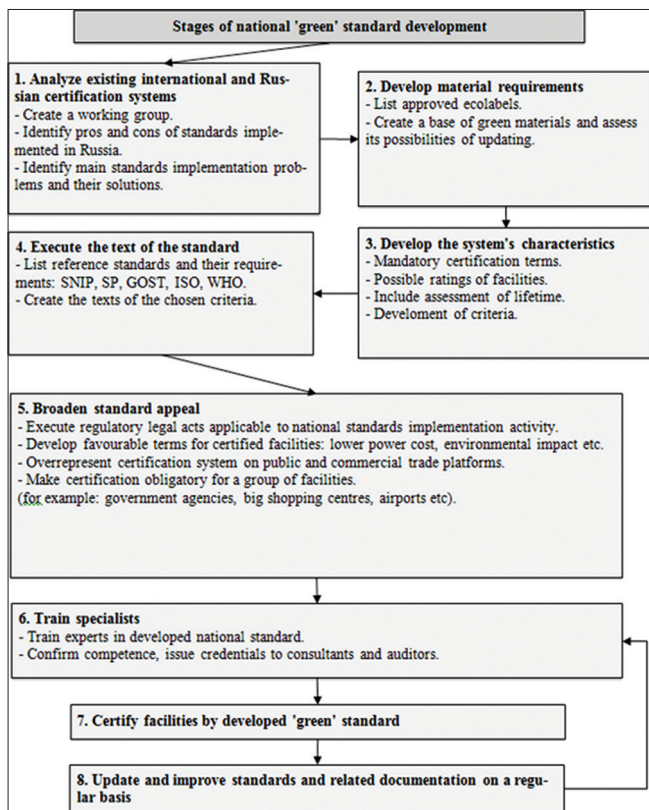
The social factors include better indoor climate and higher environmental awareness both with the present and future generations. Moreover, implementing such a mechanism in Russia would create new jobs for specialists, advance the environmental impact assessment and consulting, increase the energy efficiency and environmental compatibility of technologies and equipment.

Ensuring the well-being of employees, improving their labor efficiency, energy and water saving allows cutting down expenses, which accounts for economic benefits.

The resource saving mechanism helps to settle a broad range of issues:

1. Choose the optimum construction site;
2. Design an energy-efficient facility;
3. Arrange the most efficient water consumption possible;
4. Rationalize the utilization of all resources, consumable materials etc. to the utmost;
5. Ensure maximum control and management of all the processes at the facility;
6. Choose and utilize green materials;
7. Create comfortable indoor climate;
8. Ensure comfort and safety;
9. Train and encourage employees to participate in environment-related events.

**Figure 1:** Stages of national “green” standard development (Made by authors)



Modern advanced productive forces provide material basis for the rationalization of the resource consumption and saving routine, helping to save labor costs and expenses per each end product unit. The greater the amount and, most importantly, the higher the quality of the productive forces – the less material and other resources are required for an economic effect.

Most companies tend to take only administrative and technical measures, which allow saving certain types of resources but are not overall aimed at resource saving. Construction management, however, should be based on the relationship between the formal planning system and the current situational decisions within the general management framework.

The macro-level requires focusing on such a development scenario, according to which resource saving principles of economy would result in economic growth while preserving the current level of consumption of various resources.

The construction industry has great potential for effective resource saving. In particular, it is feasible to save energy when building and operating a construction facility through electrical energy, fuel and water resources economy.

The recently increased necessity to involve resource-saving technologies in construction encourages building companies to be as efficient as possible at utilizing and allocating resources at

## 4. CONCLUSION

every stage of construction – from the execution of design estimate documentation and all the way to the commissioning of a facility.

Resource saving requirements in the construction industry should be aimed at organizing the technology of construction, reducing the amount of production waste and saving energy resources.

The resource saving mechanism in question also helps to cut down financial investments in the execution of a construction project both at the allocation of funds and the approval of the design documentation including the system of the facility environmental certification, which allows choosing the best construction technologies.

A key aspect of developing the resource saving mechanism is creating a national standard based on the international “green” certification systems in line with the unique features of the Russian construction industry reflected in the variety of criteria for the mechanism. The evaluation Table 1 can be used to evaluate the resource saving criteria (Table 1).

Thus, the development of the standard requirements is determined by the evaluation of the criteria by the scoring scale, which made it possible to elaborate the following standard requirements (Table 2).

**Table 1: Evaluation table of criteria for the standard requirements (fragment)**

Criteria	Score			Attained result ( $R_n$ ) $R_n(1, \dots, n) \rightarrow \max$
	$R_1$	$R_2$	$R_k$	
Section N	Section name			
$N_n$	$N_n R_1$	$N_n R_2$	$N_n R_k$	$R_n(N_n)$
...	...	...	...	...
$N_1$	$N_1 R_1$	$N_1 R_2$	$N_1 R_k$	$R_n(N_n)$

**Table 2: Standard requirements (fragment)**

Number	Names of sections and criteria	Comments	Requirement	Obligatory requirement/ max score
Section A:				
Construction				
A1	Ban on asbestos	Usage of carcinogenic amphibole asbestos is prohibited in production of construction materials; about 60 countries have completely or partly banned the usage of asbestos; over 95% of produced asbestos is exported to underdeveloped countries	Ban on usage of amphibole asbestos and asbestos-containing materials	Obligatory requirement
A2	Sound level at construction site	Elevated sound level affects people and animals	Day-night average sound level of a construction site must not exceed 70 dBA	Obligatory requirement
A8	Using secondary materials	Using secondary resources helps to save the primary ones and reduce the amount of waste	Use materials with a share of recycled or secondary materials. 10% of the total cost of all the materials in a project – 2 points, 20% – 3 points; 30% and more – 4 points	4
Section B:				
Functionality				
B1	Compliance with environmental	Under no circumstances does voluntary certification relieve from the obligation	A facility must function in full compliance with the environmental legislation. All the	Obligatory requirement

(Contd...)

Implementation of “green” standards in Russia has a number of problems, rooting mostly in the unique characteristics of the Russian market. It is essential to develop national standards based both on the most efficient approaches of the international systems and the Russian distinctive features. Such a mechanism could become an efficient resource saving instrument in the construction industry having the current international standards as its limitations.

The process of implementation of the “green” construction national standard involves analyzing the market of green construction materials, developing regulatory and production documentation, adjusting the legislation, introducing a system of benefits for certified facilities.

This resource saving mechanism and its abovementioned requirements have already been tested in several projects, namely in Moscow offices. Due to the relevant measures, developed documentation and training of employees, energy consumption has been reduced by 8% and water consumption – by 13%. The offices have introduced waste sorting for waste paper, plastic, glass, batteries and accumulators. Over the first 6 months of 2015, more than 500 kg waste were collected and transferred for recycling.

The suggested national standard development scheme has the following advantages:

- Introducing benefits and an opportunity to cut down expenses make the system more appealing;
- The obligatory nature of its implementation for certain facilities allows the system to prevail over others as well as to increase the safety of important facilities;
- Developing a unified national standard accounts for its superior quality;

**Table 2: (Continued)**

Number	Names of sections and criteria	Comments	Requirement	Obligatory requirement/ max score
	legislation requirements	to respect environmental norms, requirements and laws	necessary documents (for example, MPE, MPD, SPZ), waste deposits, registers, reports etc., must be available. Any minor non-compliance must be closed within the period set by an auditor; major non-compliance entails denial of further certification	
B8	Water saving. Wastewater	Restriction on and economy of water consumption allow saving not only water but also energy resources. A litre of water requires a lot of energy for its production, purification, transportation etc.	Organize collection of wastewater and stormwater, which is later used for irrigation	1
B10	Water saving. Faucets		Faucet water discharge must not exceed 6 l/min. If the right faucets are not available, water-saving aerators can be installed	1
B11	Water saving. Water consumption monitoring		Installment of water meters, analysis of meter readings for positive dynamics	1
B12	Water saving. Showers		With showers available, water discharge must not exceed 10 l/min. With no showers available, a point is added automatically	1
B13	Green construction materials	Ensuring environmental compatibility of used materials	Green materials must be a priority: Using materials with hygienic certificates, type I ecolabelling (for example, EcoMaterial, Vitality Leaf, The Blue Angel, Nordic Ecolabel, EMICODE, Eurofins etc.). Wooden materials must have a FSC or PEFC certificate. 10% of the total cost of all the materials in a project – 1 point, 20% – 2 points, 30% and more – 3 points	B13
B16	Innovations and best available technologies	Applying scientific progress, state-of-the-art technologies and solutions allows minimizing environmental impact most effectively	Encourage to apply best world practices, develop innovations. Assessed by experts	2
Section C: Survey C1	Indoor climate	Providing comfortable indoor climate helps to rationalize resource consumption (for example, low temperature forces employees to turn on energy-inefficient heaters, while high temperature makes them use fans)	Indoors climate must have optimum temperature and humidity characteristics; it must be a comfortable working environment <ul style="list-style-type: none"> <li>• Air temperature in a workplace in the cold period of year must be from 22°C to 24° C, in the warm period of year – from 23°C to 25°C</li> <li>• Temperature difference at the floor and the head level of a sitting operator must not exceed 3°C</li> <li>• Relative air humidity in a workplace must amount to 40-60%</li> <li>• Air velocity in a workplace must not exceed 0,1 m/s</li> </ul>	Obligatory requirement
C2	Air analysis	Providing a safe working environment to employees	Harmful substances concentration must not exceed 80% MAC for the following substances: <ol style="list-style-type: none"> <li>1. Carbon oxide,</li> <li>2. Carbon dioxide,</li> <li>3. Nitrogen dioxide,</li> <li>4. Sulphur dioxide</li> </ol>	Obligatory requirement

(Contd...)

**Table 2: (Continued)**

Number	Names of sections and criteria	Comments	Requirement	Obligatory requirement/ max score
C8	Visual comfort	Providing environmental and social safety as well as comfort and occupational disease risk reduction	Expert review: Assessment of visual characteristics, video ecology, glare prevention, light distribution, window size, workplace arrangement, choice of flowers, plants and office decoration, layout	2
Section D: Resource saving				
	Waste for recycling. Paper	Producing paper from wood pulp affects the environment considerably – deforestation, ecosystem disbalance, water and energy consumption. Producing paper from paper waste reduces the negative impact, 1 ton of paper waste helps to preserve 20 trees	Collect paper waste for recycling. Paper bins must be available at every printer and within reach for all employees	Obligatory requirement
Section E: Eco-friendly purchases				
E2	Tableware	Using disposable tableware is inefficient	Non-utilization of disposable tableware (plates, cups, cutlery). If non-utilization is infeasible, non-plastic biodegradable tableware (for example, made from corn or cane) must be preferred	Obligatory requirement
E6	Choosing green furniture	Reducing negative impact on the environment, looking after employees	Lack or negligible amount of harmful substances Formaldehyde emission class E0/E1 (less than 8 mg/100 g dry matter)	3
Section F: Looking after employees				
F1	Smoking	Tobacco smell affects facility users negatively. Reducing passive smoking has a positive impact on facility users	Smoking area must be located outside the facility OR if smoking areas are located indoors and the air vent is functioning properly – there must be no sensory detection of tobacco smell at any time within 1 m from the area. Smoking areas must feature warning signs on health effects of smoking	Obligatory requirement
F4	Corporate transportation	Apart from being convenient for employees, corporate transportation helps to reduce the amount of private cars in use on account of public transport	1 point – transfer from the nearest underground/other station to the office 2 points – the company owns an electric or hybrid vehicle for corporate purposes	2
Section G: Environmental awareness				
G1	Environmental code of employees' conduct	Environmental code of employees' conduct specifies and regulates all environmental aspects of activities in a facility	The document must be laid out, approved, publicly available, communicated to the company senior management and employees	Obligatory requirement
G4	Sustainability reporting (GRI)	Disclosure of information on the company's contribution to sustainable development draws public attention to this issue, engages employees and raises their environmental awareness	The company must issue an annual sustainability report in line with the GRI requirements	2
G5	Green purchasing procedure	Green purchases include consumable materials, office equipment and any other units subject to environmental compatibility requirements. Regulating such a procedure can ensure environmental compatibility of purchases	The document must be laid out, approved, publicly available, communicated to the company senior management and employees. A competent specialist responsible for implementation and updating of the document must be assigned	2

GRI: Global reporting initiative, MPE: Maximum permissible emissions, MPD: Maximum permissible discharge, SPZ: Simplified planning zone



- The clear-cut system of evaluation criteria, the exposure and transparency of information exclude corruption;
- Training specialists will create jobs and broaden the scientific personnel base;
- Encouraging the market to increase production quality and reduce its environmental impact due to stricter requirements to materials.

In conclusion, developing a new resource saving mechanism relying on the international practical and academic experience as well as enjoying government support by means of various incentives and benefits, has the potential to solve not only environmental, but also social problems of the modern construction industry.

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## **Rationale for the Use of the Cluster Approach to the Formation of Localities in the Regional Economic System**

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### **ABSTRACT**

With the growing divergence in the level of formation of regional territorial localized sub-national economic space is a priority for the development of the cluster model of development management localities in the economy of the regions of the Russian Federation. Effective direction of solving this problem is the dominant national economic development of organizational and economic instruments of formation and development of clusters in the regional economic systems. Under these conditions, the fundamental importance is the interaction of government, business and institutional structures of civil society as the three key actors of the process clustering economy, as well as networking between the partner companies themselves. Their effective cooperation achieved in the framework of spatially localized economic systems - clusters, representing the totality of the territorial concentration of interconnected business interests of companies as well as government and public economic and social institutions necessary for the development of competitive advantages of clusters and regional economies as a whole.

**Keywords:** Cluster, Approach, Regional Economy, Locality

**JEL Classifications:** C38, R12

## **1. INTRODUCTION**

A study of the cluster approach to create new forms of economic relations in the region's economy is due not only to the possibility of adaptation of international practice, which has proven the effectiveness of the use of the innovative capacity of enterprises, but also determined the necessity of implementation at the regional level, the basic principles of the draft Federal Law "On Innovation and State Innovation Policy of the Russian Federation" and the Federal Law "On Amendments to Certain Legislative Acts of the Russian Federation Regarding Formation of Favorable Tax Conditions for Financing Innovation" from 19.07.2007 No. 195-FZ (Federal Law "On Amendments to Certain Legislative Acts of the Russian Federation Regarding Formation of Favorable Tax Conditions for Financing Innovation," 2007. It should be noted that to date, approved by the Chairman in 2005,

the Russian Government "Fundamentals of Development of Innovative Activity in the Russian Federation until 2010" still do not have the status of legal documents and therefore cannot be fully utilized for the creation of methodological apparatus development of cluster technology. In these circumstances there is an urgent need to adapt the theoretical apparatus on the subject of innovation and the creation of methodological tools for the implementation of clusters in the practice of economic turnovers.

## **2. THE MAIN PART**

Problems of development of cluster technology devoted to the works of many well-known scientists-economists: Alabugina, Ansofa, Kapelyushnikov, Kleiner, Mihranian, Rubtsov, Chi Hai, Yalova. From foreign authors should be allocated a number of researchers whose works are devoted to the development of both

innovative management and technology related to its development: Porter, Drucker, Kotler, Reyporta, Jaworski, Levitt et al.

It should be noted that the cluster organizational techniques may be implemented in the form of projects and programs, using standard conditions for the implementation of strategic planning and project approach (plan - a schedule of activities, responsible executors, and expected results - quantitative indicators).

In our opinion, a necessary condition for the effectiveness of the cluster approach is to match the projects developed the basic principles of strategic planning, taking into account the specifics of enterprises cluster type and a thorough analysis of the factors external and internal environment. In our view, the primary assess implementation of cluster technology is to optimize the trade balance of the region is to increase exports of goods and services and at the same time import substitution. In this regard, we believe that the key performance indicators of the project can be clustered as follows:

- Optimization of the main indicators of production - economic activity (sales volume, profitability, capital productivity, etc.) From the main enterprise - cluster members (over time and in comparison with the average for the industry);
- An increase in tax revenues;
- An increase in the volume of attracted investments, including foreign funds and private investment;
- Increase in the proportion of enterprises and organizations involved in the cluster, including small and medium enterprises;
- Increasing the number of skilled jobs, including through the involvement of experts of high technologies.

It should be noted the need for small and medium businesses in the implementation of mechanisms for the active involvement of the cluster is to create the infrastructure of the cluster, and at the stage of intermediate projects.

Based on theoretical developments, the most detailed in the works of Kotler (2006), it should be noted that the first step for the realization of methodological research unit cluster mechanism is to conduct a preliminary study, whose main task is to identify the potential for the development of clusters and identifying the points of focus.

In our view, the preliminary study of regional development is a first step for the implementation of cluster technology in a particular market.

In this connection, it can be used statistics on the totality of the region's enterprises (small, medium and large) in dynamics with the release of shares of individual segments of small businesses (according to the balance sheet) (Prokopiev et al., 1998).

It is necessary to pay attention to another, no less important information, including: The spatial distribution of the groups of companies chosen segments across industries (technology and market), competitive advantages and disadvantages for development of individual sectors of the economy; analysis

of the scientific and technical potential for the development of cluster technologies (dynamic set of entrants compared to the corresponding specialty with the dynamics of development of industries involved in the creation of the main product, as well as an analysis of research conducted at the regional level) (Problems of innovation management: Thematic, 1995).

The outcome of the first stage will be to identify and primary identification of regional clusters, including "the internal" analysis regions: Assessment of the strengths, weaknesses, challenges and opportunities for the whole of the regional economy (analysis SWOT-matrix). To determine the importance of the cluster for the regional economy using the above analysis of statistical data, a set of quantitative characteristics, including employment in the cluster or a cluster of turnover (as well as the dynamics of the period), the share of exports of the cluster in the regional economy, the pace of new companies.

However, from the perspective of a number of researchers: Koloshin, Razgulyaev, Timofeeva, Rusinov (Analysis of Foreign Experience to Increase the Industry, Regional and National Competitiveness Through Cluster Development, [www.politanaliz.ru/articles\\_695.html](http://www.politanaliz.ru/articles_695.html)), the most effective analysis of the cluster should consist of a set of qualitative methods (in particular, the peer review of the regional economy) in combination with a set of quantitative methods. The indicators used for the analysis should reflect not only the internal capacity of the cluster in relation to the rest of the economy, but also its position on foreign markets, particularly in comparison with other regions. In his writings, the authors have attempted to justify this conclusion and have developed a comparative classification of conventional methods of cluster analysis, highlighting their strengths and weaknesses. It is presented in Table 1.

Exploring the advantages and disadvantages of each method, the authors considered in great detail each of them. Thus, Rusinov says: "A common method for determining regional clusters is the use of expert evaluations and other mechanisms to collect the necessary economic information. While the collection of expert information on the regional economy can be effective in terms of cost and volume of such information, the lack of sufficient systematic does not allow profound generalizations. Expert estimates are most commonly used in the microanalysis of regional industrial clusters" (Rusinov, 1996; Bulu and Yalçintaş, 2015).

One of the popular methods to identify regional industrial clusters is the use of localization factors. Localization ratio - the ratio of specific weights of employment in certain industries, for example, the share of industry in total employment in the region in relation to the relative weight of the sector in total employment in the country as a whole. Localization ratio (CR) of 1.0 means that the region has the same proportion of the industry in terms of employment, and the country as a whole. Localization ratio exceeding a value of 1.25 means that we can talk about the beginning of the specialization of the region in this particular sector of the economy (Lazareva, 2007; Korzhenevskaya, 2014).

The traditional use of factors of localization provides little information about the regional industrial clusters. This method

**Table 1: Classification of cluster analysis**

Methods	Advantages	Disadvantages
Expert evaluation	The relatively low cost; detailed information	The lack of systematic collection of information; the lack of generalized data
Odds localization	Easy settlement; can complement other methods	Focus on industries and sectors, rather than clusters
Production intersectoral balances	They are often the main source of indicators of interdependence of industries and companies; detailed and comprehensive information	The data can become obsolete; It does not reflect the role of related institutional structures
Innovative inter-sectoral balances	They are often the main source of indicators of interdependence of industries and companies	These balances are rarely published or not available as such
Graph theory/network analysis	Visual analysis of the relationship	A set of computer technology limited
Special surveys	Flexibility in collecting the necessary data	High costs conducting

of analysis of the industry and, therefore, does not say anything about the interdependence of the various sectors of the economy. This method is suitable for use in conjunction with other methods of cluster analysis.

Research clusters using IO tables. Experts on Regional Industrial Development have long used such methods of grouping industry sectors, such as graph theory, factor analysis, etc., which are based on inter-branch communications. In some Western European countries inter-branch balances methodology is based on the analysis of the interaction matrices of innovative, not matrices inter-sectoral product flows. Innovative matrix describes the flow of innovation between their producers and consumers. The principal advantage of innovative matrix is truly innovative emphasis on interdependence and interaction between sectors. The disadvantage of these matrices are the high cost of collecting data and statistics, as well as the complexity of the conceptual justification of the surveys (Kobersy et al., 2015; Novikov, 1999; Hu and Cai, 2013).

A relatively new method of identifying industrial clusters is a network analysis of the relationships between companies and sectors of the economy. The most objective statistical data for this analysis are innovative cross-sectoral balances, although it uses surveys of regional experts and other qualitative data on the links between regional branches. The main problem of the graphical analysis of the network of regional industrial clusters identified is the interpretation of complex relationships. The development and the development of better technology and graphical analysis of the relevant software is a potential and promising area in the study of industrial clusters.

Special surveys to identify local, regional and inter-regional exchange models can carry out research activities of regional companies. However, such surveys are expensive industrial clusters. Therefore survey methods should be used to a limited extent and only in conjunction with other quantitative techniques (Novikov, 1999).

In our opinion, the analysis methods to assess the cluster suggests that the most effective of these is the expert assessment method combines advantages such as relatively low cost and the availability of detailed information. However, the disadvantages of this method can be compensated by carrying out systematic research and the collection of the necessary statistics. Thus, in order to conduct

empirical research, you can use the expert evaluation method in combination with the SWOT-analysis (strengths and weaknesses of the regional entity).

This conclusion is consistent with the position Kotler (2006), which says that “to assess the current market demand is necessary to determine the overall potential of the market, the market potential of the region, sales of the industry and its market share. To estimate the future demand for the company’s intention to study the customer, using the expertise of its sales representatives, expert opinions and carry out market testing.”

A similar view is shared by N.A. Nagapetians (Marketing in Industries and Occupations: Proc. Manual, 2007). From his position, “along with quantitative indicators to assess market factors and the situation on a market, it is necessary to use qualitative indicators, based on a point system comparisons, the widespread practice of marketing research through the use of expert assessment method.”

The next step for the implementation of the methodology of cluster technology in the market is to identify the logic of the formation of companies in a single cluster, which may occur on the basis of the production of general merchandise, use similar production processes, the overall value chain, key technologies, the requirements for the qualification of the workforce and proximity to natural resources.

Thus, according to the results of the first phase project of the cluster analysis disaggregated to the level of sub-projects, such as:

- The business climate: Study of normative-legal documents that form the development of entrepreneurship at the regional level; analyzes the relationship of government and business structures;
- Factors of production: Analyzed technologies, human resource capacity, the introduction of integrated management systems, etc.;
- Market: Market analysis, study of the proportion of companies that make up the cluster on the market of goods and services;
- Competition: The study of competition by sector and the main “market barriers” that prevent the exit of the cluster on the market;
- Level of innovation in the industry: Analyzed key scientific and technological developments and the introduction of new technologies in the industry;



- Funding: The possibility of public and private financing of the cluster, investing in the development of new technologies;
- Information exchange of knowledge: An analysis of the possibility of a permanent information exchange between the project participants and involved parties.

For the purposes of establishing the second phase of the analysis of the cluster, we consider in more detail the main factors for the analysis of enterprises cluster type (competition, knowledge and information exchange market).

In modern conditions, the competitiveness of the cluster is determined not only by the external conditions of its development, but also internal factors that are used as resources to achieve the strategic goals of the company. There are a number of internal factors of competitiveness, which form “a portrait” and the vector of the development of enterprises. Modern views on the competitiveness of enterprises based on changing conditions in recent years of their operation. Transitional Economy, a series of national and world crises put before Russian companies rather contradictory requirements. Therefore, objectively necessary to identify the factors of competitiveness of national and international importance, as the realities of the operation and interaction of Russian companies still differ significantly from international standards. Differences are noted not only in the external environment, but also in the internal organization of enterprises.

In the scientific literature (Competitiveness of Russia in the Global Economy, 2003) distinguish the classic type of enterprise and innovative style. The classic type of enterprise is characterized by the following features:

- Capital intensity and material nature of the assets;
- A vivid manifestation of vertical integration and the desire to establish full control over suppliers and customers;
- The dependence of employees from management;
- Insufficient application of innovative technologies;
- Rigid binding regional firms due to any ongoing strategy or objective conditions of the market.

With the development of the global market economy stood out a new format for enterprises characterized as an innovative type of economic relations. It has the following features:

- The intangible nature of the assets, of which the leading advocates of human capital;
- Flexible agreements with suppliers and customers, the employees of the company;
- Expanding the boundaries of the enterprise;
- Competitiveness is ensured not by assets, and their mobility;
- Widespread use of innovative resource-saving technologies;
- Environmentally friendly production (Talib et al., 2012; Finaev et al., 2015; Innovation, Globalization and Competitiveness in the Light of the Economies of Russia and the United States, [Stra.teg.ru/lenta/innovation/1137](http://Stra.teg.ru/lenta/innovation/1137)).

It is obvious that a new type of enterprise is more consistent with the characteristics of the enterprise cluster type having all the above criteria and presents an innovative model of development of economic relations.

As already noted, a key element of the global competitiveness of the economic entity is its involvement and active participation in innovative projects, a high level of scientific and technological growth and development of production, the result of which becomes high-quality products.

Relatively strong points of Russian firms, experts (Wolman and Hincapie, 2015; Competitiveness of Russia in the Global Economy, 2003) consider the potential for innovation, product design, availability of production chains that integrate different enterprises in the same industrial complex. The strengths of the Russian business environment include: A high level of research institutes, highly qualified engineers, designers and scientists, an extensive network of railways.

Rather they see weaknesses: Poor customer orientation (including marketing) and the poor quality of the production process, as well as the poor quality of telephone and fax communications, sluggish competition at regional level and the ineffectiveness of anti-monopoly policy (Porter, 2006).

To explain the nature of competitive advantage, Porter (2006), in their study used the concept of the value chain, which includes not only the activities of the enterprise, but also the contribution of suppliers and channels of distribution and marketing. He believed that despite the overall inter-farm conditions, each company has its own value chain, as all businesses have a different history; a different strategy is carried out and have other differences. These differences can be identified for the formation of new sources of competitive advantage.

Evaluation of competitive advantage within the cluster, based on the theory formulated by M. Porter, is presented in Table 2.

Thus, a detailed investigation of the above factors led to the conclusion that in the conditions of the development of cluster technology competition plays a special role at the stage of the business combination as an independent cluster, because not only

**Table 2: Evaluation of competitive advantage within the cluster**

Competitive advantage	Measurement method
Qualified staff	Study level staff within the cluster Given the need for skills The research capacity of local structures to meet the needs in skills
Technological development	The international reputation of the specialized research within the cluster The extent to which entities in the cluster can conduct research The commercialization of university research
System to support the creation of new businesses	Measuring the availability of venture capital for the formation of new companies Evaluation accessibility (cost) of assets Review of institutional support (or support in economic policy) cluster development and the relationship to the business

creates the market value of the enterprise itself, but also enables the development of innovative potential of the industry.

**Information exchange of knowledge:** An analysis of the possibility of a permanent information exchange between the project participants and involved parties.

N.A. Nagapetians in their research notes: “The market innovation creates its additional filters: Horizontal when different filter quality of the various higher education institutions and relevant to young professionals in the labor market develops depending on the institution, which he completed, and vertical when the company put additional conditions: Of workers required practical experience, additional recommendations, a separate confirmation of computer skills or a foreign language, etc.” (Marketing in Industries and Occupations: Proc. Manual, 2007).

In his works, Kotler also notes the special role of the information exchange of knowledge, believing that it forms the competence of personnel in the performance of the basic functions and ultimately create “image” of the company (Kotler, 2006).

Ēriashvili notes that knowledge is a critical element in the practice of modern enterprises. He identifies the provision of knowledge of the real choice of features meet the needs of consumers. These tasks, in his view, based on the following procedures for marketing:

- To understand customers and identify their area of interest - the work carried out on the basis of special studies, market segmentation, modeling of consumer behavior;
- To ensure the availability of choice - are the preferences and priorities, based on the differences between consumer goods features, prices and producers, as well as places and conditions of sale;
- Provide information on a choice of goods - used media, advertising, and various methods of sales promotion (11).

Thus, the information exchange of knowledge is the link between the enterprise cluster and the end user. The higher level of knowledge, the greater the innovation activity of the enterprise and the image of the entire cluster. The flow of knowledge is the basis for the functioning of the cluster technology.

**Market:** Exploring the market factor should be noted that the development of market relations generates the internal environment of the enterprise.

Kotler segmented the market structure with respect to consumers and identified three types of structure of preferences (Kotler, 2006).

- Uniform (homogeneous) structure of preferences - the structure of the market buyers, which are about the same preferences. Natural market segments are absent, so the goods in said structure have approximately the same demand and have similar characteristics.
- Broken (diffusion) the structure of preferences. The opposite homogeneous structure. Consumer tastes vary considerably, so if the market several brands, they are likely to be located around the market space and will be significantly different from each other to meet the different needs of customers.

- Group (cluster) structure of preferences. The market can be identified distinct groups of customers with similar preferences, called natural market segments. The company, the first to enter the market, there are three possibilities. Firstly, its products can draw attention of all groups of buyers. Secondly, the company may choose the largest segment of the market, i.e. the goods takes place in the center (concentrated marketing). And thirdly, it is able to develop several brands oriented to each market segment.

In our view, the use of a group (cluster) structure of preferences is possible when analyzing the market for all companies in the cluster, with the purpose of segmenting the needs of customers (consumers) in certain products or services.

Robert and Bes (2000) and Mori and Smith (2015) propose to divide the process of segmentation into seven phases: Segmentation; certain segments; the attractiveness of the segments; the profitability of the segments; positioning segments; critical evaluation of the segment; of the marketing strategy. Due to the fact that over time, the segments may be modified, the procedure for determining the market segments should be repeated periodically.

One way to detect new market segments, from his point of view is the study of the hierarchy of signs, that is, the selection of the dominant characteristics that determine the buyer’s decision. For example, some car buyers dominant feature is the country of manufacture (the hierarchy with the dominance of origin), the other is the first choice brand (hierarchy with the dominance of the brand), the third - the type (sports or family; hierarchy with the dominance of the type), the fourth - the price (with the dominance hierarchy of prices). Thus, one segment may consist of buyers, guided type/price/brand, and the other - from customers, quality management/service/type.

R. Best believes that with any method of segmentation, each segment should have a distinct demographic, psychographic, and geographic characteristics. The tabular data, we present the stages of the process of market segmentation proposed best (Table 3).

### 3. CONCLUSION

Thus, the analysis of this factor in the context of the research problem of formation of cluster technology led to the following conclusion: The market segmentation with respect to the attractiveness, profitability, production, based on the group (cluster) structure of preferences allows you to identify the most flexible companies in the cluster, in terms of product positioning and services on the market. The following two phases of analysis of the cluster are allocated as certain group of enterprises whose characteristics correspond most enterprises with an innovative component, which ultimately forms the creation of cluster technology at the regional level.

However, despite the obvious prospect of the use of cluster technology innovation to increase the competitiveness of the Russian economy (both at the federal and regional levels), there are several problems that limit the use of this approach. The

**Table 3: Stages in the process of market segmentation**

Steps	Description
Segmentation	Group the customer segment, based on the needs on the basis of similar needs and benefits sought by the client to solve a specific problem of consumption
Definition of segments	Determine what factors are demographic, lifestyle and use of the product characteristics making each segment allocated on the basis of needs, special and identifiable
Attractive segments	Determine the overall attractiveness of each segment using certain criteria attractive segments (such as the growth of the market, the intensity of competition and market access)
Profitability segment	Determine the profitability of the segment
Positioning	For each segment are developing “value proposition” and positioning strategy with a focus on product and price and based on the unique needs and characteristics of the representatives of this segment
Critical assessment of segment	Create a “file segments” to assess the attractiveness of the positioning strategy, focused on each segment
The strategy of the marketing mix	Expanding detailing positioning strategy with a view to the inclusion of all aspects of the marketing mix (marketing mix): Product, price, promotion and distribution of features

most serious problem at the moment can be considered the lack/shortage of effective and tailored to specific Russian conditions methodological developments, lack of practical experience in the implementation of cluster projects and trained professionals able to implement cluster projects, the lack of effective schemes of cooperation between authorities of different levels in the implementation of cluster projects. These reasons, in our view, form a major obstacle, which is expressed in the absence/lack of socio-economic conditions generated by the policy of the federal and local authorities for the organization of cluster technology.

Since the formation of cluster initiatives is on the one hand, in the area of federal sectoral development strategies, on the other - in the strategies of development of the regions and territories, the feasibility and effectiveness of their implementation is largely dependent on the coordination of agencies and levels of government in the development of relevant policy documents.

Considered in the questions section allowed to formulate the following conclusions:

1. At present, there is an urgent need to adapt the theoretical material on the subject to the creation of innovative methodological tools needed for implementation of clusters in the practice of economic turnover.
2. A necessary condition for the effectiveness of the cluster approach is to match the projects developed the basic principles of strategic planning, taking into account the specifics of enterprises cluster type and a thorough analysis of the factors external and internal environment.
3. A preliminary study of regional development is a first step for the implementation of cluster technology in a particular market.

4. The most effective method of assessment of the cluster is an expert method that combines advantages such as relatively low cost and the availability of detailed information. Disadvantages of this method can be compensated by carrying out systematic research and the collection of the necessary statistics. Thus, in order to conduct empirical research, you can use the expert evaluation method in combination with the SWOT-analysis (strengths and weaknesses of the regional entity).
5. The second phase for the implementation of the methodology of cluster technology in the market, is to define the logic of the formation of companies in a single cluster.
6. In the context of the development of cluster technology competition factor plays a special role at the stage of the business combination as an independent cluster, since it significantly affects the determination of the market value of the enterprise and enables the development of innovative potential of the industry.
7. Information, sharing knowledge is the link between the enterprise cluster and the end user. The higher level of knowledge, the greater the innovation activity of the enterprise and the image of the entire cluster. The flow of knowledge is the basis for the functioning of the cluster technology.
8. Use of a group (cluster) structure of preferences is possible when analyzing the market for all companies in the cluster, with the purpose of segmenting the needs of customers (consumers) in certain products or services.
9. Market segmentation with respect to the attractiveness, profitability, production, based on the group (cluster) structure of preferences allows you to identify the most flexible companies in the cluster, in terms of the positioning of products and services on the market.
10. The most serious problem at the moment can be considered the lack/shortage of effective and tailored specific Russian conditions of methodological developments, lack of practical experience in the implementation of cluster projects and trained professionals able to implement them, the lack of effective schemes of cooperation between authorities of different levels in the implementation of cluster projects.

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## **Features of the Implementation of Integrated Marketing Communications: Resistance to Change**

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### **ABSTRACT**

The issue of communication in the marketing activities more relevant for Russian production companies when they do not have sufficient funds for modernization, restructuring and competitiveness in the market. Over the past 20 years of the reformation in the Russian Federation there were fundamental modifications to the communicative strategies of most industrial and commercial companies, which are characteristic features of the situation and changes in the approaches of realization of marketing activities. Manual production and trading companies have invested heavily, both in the creation of new products and the creation of new effective methods of promotion. Effective marketing communications are due to its openness, transparency relationships, initiative on the part of industrial and trading companies, building loyalty programs in relation to the final consumer of finished products.

**Keywords:** Marketing, Marketing Communications, Methods of Promotion, Market Conditions

**JEL Classifications:** M11, M31

### **1. INTRODUCTION**

Intensification of communication capabilities, as well as increasing global competition, showed a powerful influence on marketing (promotion policy), many production companies. Companies have resorted to modifying its marketing programs, including promotion as competitors and the markets began to cover the world space. Steel accounted for questions about advertising and its costs; media used throughout the world, and not set limits domestic markets; advertising appeals apply to customers in different countries, and sellers of goods are located in different world markets (Kobersy et al., 2015).

Increased interest in the physical health and financial well-being due more to the growth of the health industry (gyms, recreation health), change preferences in the diet (increased interest in poultry, fish rather than meat), all this has led to an increase in sales of products

that are able to give consumers better health and improving fitness as a consequence of reduced weight. Consumers have changed their passions for food, games, and their expectations for the product. These significant changes gave a call to form the preconditions for the practical implementation of a flexible and constructive policy tools and implementation process of marketing communications.

In the current market conditions, marketing philosophy for success is absolutely necessary to integrate, rather than past experiences, often considered as the elements of the communication activities of individual types of manufacturing companies. According to Spencer Plavukasa "Marketers who fruitful and successful in today's market conditions, it is the specialist who coordinates the complex of marketing communications is so firmly that advertising to advertising, from article to article, the consumer immediately understands and recognizes that this is that mark which he used to choose which he trusts" (Rossiter and Percy, 1997).

Marketing communications in this received much attention; many manufacturing companies have denied the integration of different communication elements. Resistance to change is largely due to fear of managers that such changes will inevitably lead to a reduction in budgets and reduce their authority and power. Advertising service production companies do not see any changes in mind for fear of expansion of its functional units beyond advertising. But despite this, the advertising agencies have expanded the boundaries of their functions by creating alliances with production companies or build their new offices that specialize in sales promotion, direct marketing, and others.

## 2. MAIN PART

In order to accept the idea of integrated marketing communications need to understand that the components of the marketing mix is none other than a means of communication, and that they must all act together. The following factors are very important and have an impact on marketing communications and promotion of management practices:

1. Widely widespread lifting of restrictions on the activities of various industrial companies in many industries has led to mergers and a reduction in the number of competing firms. This has had an impact on the implementation of marketing communications;
2. Deregulation of the industry's finances intensified production and trading companies to use advertising techniques such as souvenirs, prizes, promotions, gifts, for customer retention manufacturing;
3. The intensification of global competition between the companies and improving communication capabilities have worked on the development of marketing communications. Companies increased their forces to promote marketing programs, increased competition;
4. Use as an attraction to its rigid product advertising that promotes attraction of passive consumers. It usually relates to the health industry.
5. The increasing importance of such factors as the time of great importance when purchasing goods. Modern family, with current employment, have less time for traditional shopping. As a consequence, the emergence of a more rational use of time. Customer requirements dictate the need to store the new operation mode, so as to match the rhythm of life and schedule. This trend reflects the technical amenities such as ATMs around the clock to conduct banking operations. Consumer behavior is determined by the preference of customers to form a time frame. Companies engaged in production technology. Home produce faxes, computers, create internet - shops, and consumers themselves can order his products by phone, fax or via the Internet (technology, food, tour tickets, and others). There are many other manifestations of control over time. Promotion manager that gave new possibilities (Golubkova, 1999). That the term "promotion" is most often associated in the minds of a communication policy of the manufacturer.

Information - is the task of promotion, since the purchase of goods is not possible as long as the buyer does not know about its existence and do not understand what it is it may be necessary.

Potential customers need to know where to buy a particular product, its cost and how to apply it.

The conviction - no less important component of the promotion because most people need motivation in choosing a way to meet the needs. Where the goods have not been familiar to the consumer before the consumer it is not acquired, it is necessary to convince the buying. Or do you need to convince consumers to change the rival company, in case he was accustomed to use competing brands (Medvedeva, 2011). You also need a reminder of where it is possible to buy the goods, and its merits, as it contributes to further demand and captures consumers' confidence that he made the right choice (The system of marketing communications, <http://www.hr-portal.ru/article/sistema-marketingovykh-kommunikatsii>).

The main content of the promotion - it informative, persuasion and reminder, this is due to the fact that in each individual event in the field of promotion focused on solving specific problems. The latter include the attraction of new customers, increased demand from existing customers, help sales agents, maintaining a constant level of sales, creating awareness of the trademark production and trading company, to influence the consumer making a purchase decision.

Summarizing it can be said that the marketing communication is a process of sharing statement transmitted in various forms, and various methods for promoting goods, services, or ideas. The main tools of marketing communications are considered to be advertising, public relations (PR), sales promotion and personal selling (direct marketing). Improving the old forms, new transmission technology marketing messages, this process is not in place.

Activities of practitioners in the field of marketing communications targeted to direct consumers and other members of the marketing process, so manufacturers are striving to tailor their marketing messages to all stakeholder groups. As the business grows, the manufacturer increases the number of participants has important marketing process, developing and scope marketing communications. The exceptional impact on the field of marketing communications has the state of the domestic economy, culture and scientific and technical progress. It is impossible not to take into account international factors, for example, Russia can easily be taken to achieve the experience of other countries in the field of marketing communications.

Management marketing communications in Russia is becoming an important part of modern manufacturing companies and the business environment. Formation of the business environment objectively confronts the issue of manufacturing companies a strong position in the competitive environment, adaptation to external economic conditions (Zunde, 2008). New technologies of production of finished products of the company, relationships with traders and consumers have changed the application of the marketing communications. To increase the effectiveness of marketing communications, it is necessary to apply an integrated approach to their implementation. The basis of this approach is to ensure coherence of all tools of marketing communication in the

framework of a unified strategy to achieve marketing and corporate goals. Implementation in practice, indicated the approach will be discussed hereinafter.

The current accelerated modernization of the economy as a whole determines the demand for integrated marketing communications from production companies, namely the influence on the economy of globalization causes the transition from traditional methods of perception, thinking and operations management to non-standard solutions rapidly modifies the information systems and technologies.

The emergence of the concept of integrated marketing communications planning due to the necessity of marketing communications in conjunction with the assessment of the strategic role of the individual tools of integrated marketing communications and offers the best combination to ensure clarity, consistency and maximize the impact of communication programs using a consistent integration of all the individual requests.

The trend towards the integration of marketing communications, i.e. shared advertising, PR, sales promotion, direct sales, communications, point of sale and event marketing with other elements of the marketing mix - one of the greatest marketing accomplishments of the 1990s when many experts noticed that the traditional marketing methods does not work. The emergence of integrated marketing communications approach has been defined a number of reasons:

- There was a clear need to find new means of communication or upgrade existing ones. This is determined primarily large number of advertising messages at this time;
- Were innovative channels of information transmission, which is used in the old system of communication becomes impossible;
- Observed a decrease in segment target audiences, which is associated with a progressive increase in the producers, which leads to the fact that manufacturing companies need to become positioned as a mono-enterprise, choosing specific “personalized” the audience (Kobersy et al., 2015; Shkurkin et al., 2015);
- A change in the motives of the target consumer, because at the forefront not the direct use of the product, and then what good and satisfying future needs may be given to the consumer;
- Achieved consumer loyalty of the new segments. We know that winning a new customer costs production and trading company in several times more expensive than keeping a constant;
- Take into account national differences in the perception of marketing communications at the production companies doing business in different countries.

Note that the term “integrated marketing communications” inherent specific features. The category of “integration” is even more mediated in conjunction with marketing communications, but the implementation of such integration in the practice of management of marketing communications is essential, plays a special role derived from a combination of marketing communication tools synergistic effect. Integrated marketing communications are

devoted to marketing, including Schultz, Tannenbaum, Lauterborn (Schultz et al., 1994), Misloski (Misloski, 2004), Sharkov (Sharkov, 2002), Burnet, Moriarty (Burnett and Moriarty, 1998). But so far the practice indicate that the work identified authors are strictly theoretical.

The author works in the field of psychology of marketing Schultz noted in his writings that the concept of integrated marketing communication is becoming one of the most popular topics in the study of marketing and marketing communications. Schultz is the goal of most marketing communications as moving the brand promoted by marketers from the slave to the base level in the hierarchy of desires of the consumer (Schultz, 1993).

Rossiter and Percy (Rossiter and Percy, 1997) under the Integrated Marketing Communications understand:

1. Synthesis of the corresponding types of advertising and promotion;
2. Correspond to the set of communications for the purposes of a specific brand, the special “micro positioning” brand;
3. Combining the methods and means of marketing communications and sales promotion given the time and interests of buyers.

Integration and the synergy effect of marketing communications, has great potential, provided flexible marketing solutions, phased solution long-term goals aimed at retaining customer interest in loyalty (Rossiter and Percy, 1997). The system of integrated marketing communications to be combined into a single unit three different areas of marketing efforts and product promotion:

- Introduced a single financing and eliminate the conflict associated with the division of the budget in different directions;
- There is a single “control center” of the production company on promotion of the product;
- Introduced a single planning production company. Thereby eliminated the effect of sending the community unrelated and sometimes contradictory “messages” about the product (Rossiter and Percy, 1997).

On the basis of considering the various definitions of integrated marketing communications given us their interpretation of the concept of “integrated marketing communications.”

In a study of the integration of marketing communication in the production company is treated as a process of rapprochement, mutual adaptation and merging communication tools (advertising, direct marketing, sales promotion, tools, PR, sponsorship, patronage, exhibitions/fairs) realized in a particular company, in turn, a set of tools of marketing activities aimed at the creation and promotion of goods to the consumer market (on the basis of information obtained by the representative on trade marketing from the representative point of sale and customers, integrated into a single database), in order to ensure the socio-economic efficiency of production and trading companies (Bozhko, 2006). At the forefront account the additional features the sale of goods on the market: National characteristics of the market, market capacity, territorial aspects, geography implementation, the seasonality of

demand, the loyalty of end customers, and others. The designated process must have the characteristics of self-regulation and self-development of the selected technologies to manage this process in a particular companies surveyed.

The definition shows that integrated marketing communications - is a system that combines a variety of means of communication into a single process, and as a logical combination of marketing communication tools developed based on a study of factors specific to the proceeding marketing situation in the market. The definition can be traced that IMC sent to external and internal audiences and promote not only advertising and marketing, but the function and image, as well as the function of internal loyalty. Central to the definition of integrated marketing communications is that it is the last of a way of thinking that seems made up of individual parts, such as advertising, PR, sales promotion, logistics, organization of relationships with employees, etc. Potapenko offers task of integrated marketing communications to structure the following areas: External integration, vertical integration, horizontal integration, detail is shown in Figure 1.

Marketing communications modified in integrated form so that they can be seen such as seen by consumers, namely - the flow of information from one source. On the other hand, one could argue that integrated marketing communications reflect the practice of combining all means of marketing communication; it poses the problem of transmitting a message the target audience, which contributes to the objectives of the company.

Integration of marketing communications is facing a number of challenges (Zobnina, 2009). There are a number of reasons, which prevents production and trading companies to integrate. Among them, such as:

- Underestimation of effectiveness;
- The lack of skills and training of employees;
- The territorial organizational structure of the company and the system.

The key point in the use of integrated marketing communications is to choose their method of organization. And consumers, and production and trading company in the current market conditions are increasingly aware of the need for integrated marketing communications, which is why competitive manufacturing companies to invest more in training their employees in an integrated approach to marketing communications. For the implementation of the integrated marketing communications companies in the market need to realize the real opportunities for coordination of various forms of communication, association and coherence produced advertisements. Most of the companies involved in integrating marketing communications, consider that an integrated approach is rare.

Concept IMC solution involves several inter-related issues:

- Firstly, the organization of communication messages using various means of communication, which would not contradict each other and be consistent with each other, presenting a positive image of a single device;
- Secondly, the main purpose of the IMC is to increase the

effectiveness of marketing communications by seeking the best combination of the basic means of marketing communications, as well as individual instruments of each of these funds due to the increase of efficiency of activity as a result of the integration, the merger of individual parts in a single system.

Issues management integrated marketing communications in our time is becoming increasingly important, as the system of creation and sale of goods is an essential condition of competitiveness of the company and products. Every modern manufacturing company manages a multi-channel marketing communications system (Figure 2).

In this system, the production company is developing relationships with intermediaries communications, contact audiences, consumers. Consumers, in turn, bear the function to perceive the rumor, rumors, the opinion of friends and acquaintances. And as every group of supporting a communication link with the participants. In the current market conditions the way to manage integrated marketing communications is based on a synthesis of methods of market regulation, a timely information to facilitate decision-marketing solutions for the improvement and management of business entities both open systems. Accordingly, forming the problem of finding the most efficient and effective ways to manage integrated marketing communications and methodological aspects of its development of the marketing activities of particular relevance (Potapenko, 2010).

Figure 1: Implemented complex task of integrated marketing communications (Potapenko, 2010)

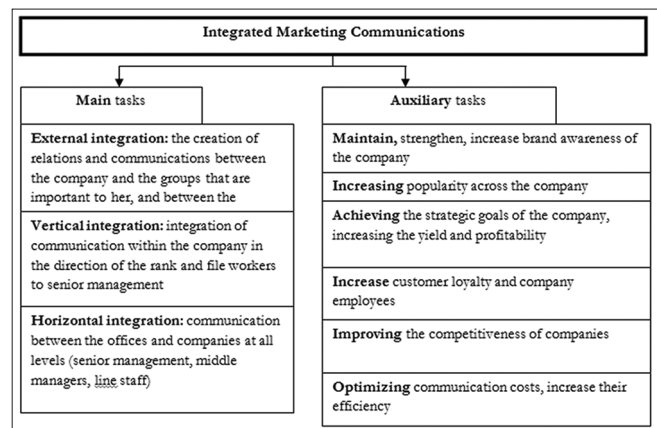
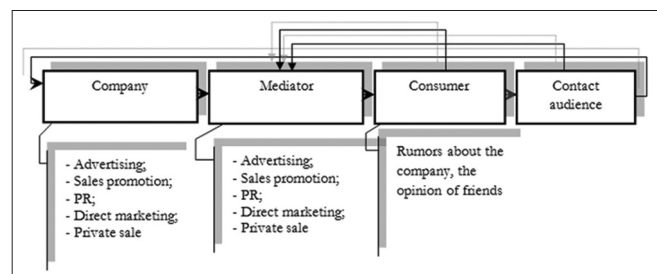


Figure 2: The implementation of multi-channel marketing communications





Management technology integrated marketing communications is characterized by a strict sequence, and consists of several steps: Information, logic, computing and organizational, as reflected in Figure 3.

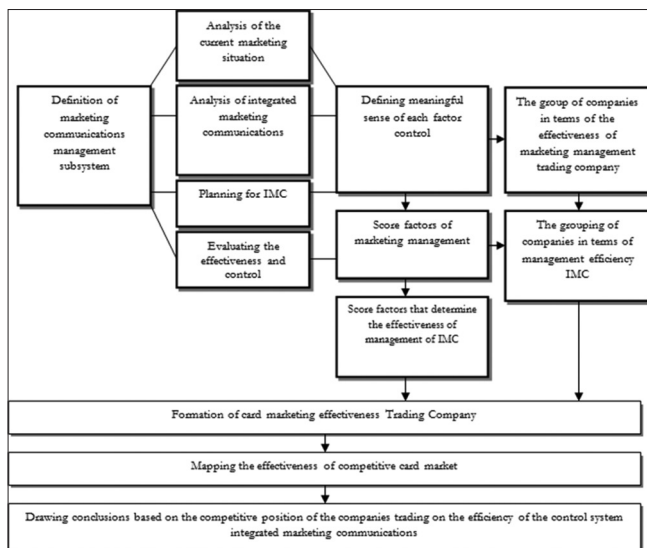
Very important is the role of integrating all channels of marketing communications for the impact on the consumer. The role of marketing communications in today's market conditions. Thus, a prerequisite for the emergence of integrated marketing communications can be regarded as parts of a production company's CRM, database, data, Internet.

The development of the modern world economy is also characterized by a significant level of information, the formation of information and communication technologies, which contributes to the appearance of previously existing technologies and elements of marketing communications, based on the formation and development of modern marketing communication and information marketing concept that would increase marketing effectiveness, taking into account the integration of technology Marketing information technology. Marketing communications mean by a regular use of a total information communications - from information on the market, the definition of the mission production company, market segment, distribution channels, determine the appropriate conditions for the realization of the product and the creation of a positive image of the production company and the product.

### 3. CONCLUSION

Thus, summing up, we note the following points. The system of integrated marketing communications - a special lever to marketing, the basic priority and infrastructure system emerging mechanisms responsible for forming and communication links between producers and consumers, companies, managers and society. Integrated Marketing Communications were the basis for many areas of modern market economy to achieve high results in the work to meet the needs of consumers while minimizing the costs of production

**Figure 3:** Methodical bases of an estimation of efficiency of management of integrated marketing communications



and trade, and reducing the time. Modern marketing communication links are the lever of influence on the production of internal and external environment using information response, aimed at creating consumer demand and sales promotion. A number of features of the modern market determine the role of communication in the activities of commercial production and trading company (which are subject to the satisfaction of consumer demand):

1. The activity of the market, the demand for which is mainly determined by the importance of replacing the consumption of goods;
2. The issue of creating totally new products and displays them on the market;
3. High standards impeding separation of the products in quality and price;
4. The need for economic growth in production and trading companies is in opposition with the desire to finance the buyer.

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## **Economic Factors and Conditions for the Transformation of the Education Services Market in the Context of Globalization**

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### **ABSTRACT**

The globalization of the education market linkages identified organizations, education institutions, which revealed the need for significant changes in the system of HPE based on a partnership of government and business; the existing system of quality assurance of educational services of higher education, identified the optimal methodology for assessing the quality of the OS; the analysis of trends, effective models of system and process approaches in the framework of the organizational - economic mechanism to improve the quality of educational services. Verified educational services market requires a dynamic record of all development trends and changes taking place in all areas of functioning of the economic systems of individual countries. That allows you to respond promptly to request time to meet the requirements of the international community, and as a result - increase the capacity and create the necessary reserves to stabilize domestic socio-economic situation of the country.

**Keywords:** Economics, Education, Educational Services, Globalization

**JEL Classifications:** A20, L11

### **1. INTRODUCTION**

One of the most debated topics in the scientific literature now is globalization. All publications of the essence of globalization are divided into several groups. The first can be described as vulgar interpretation of this phenomenon. Second - as an attempt "to join" the process of globalization of the groups that have access to, it is very weak relation. The third group includes publications ordered by global companies to carry out their specific policy in accordance with their interests. Fourth - it contains anti-globalization work and has a very broad spectrum of customers, and reasoning. The fifth group is the research, the most objective and reliable publication (Subbotin, 2004). All statements brings one thing: The irreversibility of the process and the fact that it affects every person, all of us - globalized.

Western analysis of the most striking essence of globalization deemed Sklera study. He points out that the theory of global

systems is an attempt to resolve the conflict between the state-centrist approaches is not able to recognize a global approach, and globalism, unable to recognize the resistance states. Globalization, therefore, expresses a desire rather than a completed project, and while several forces, institutions or events can be treated as a truly global, and a growing number of those who are in the process of globalization (Skclair, <http://www.vvv.chë.nu/sps/eve/globkonf>).

Among Russian researchers should allocate Kochetov, in the works of modern society which is characterized as the final phase of post-industrialism: "Today's world is immersed in a post-industrial model, in its highest man-made model of post-industrial phase... entered its final stage, when the fading of her creative powers, there is a self-reproduction of the model in the framework of the exhaust mechanisms, all the accelerating pace milled intellectual, industrial, natural and other resources. Change the psychology of man, his thinking is distorted, one-sided character takes" (Kochetov, 1998).

The basis of a negative scenario of globalization of XXI century is the formation of a model to identify Moses - “the world TNK.” Since the informational, technological and ecological processes of socialization on a planetary scale is significantly ahead of the formation of a global civil society; mechanisms of management of globalization in the hands of transnational corporations (TNCs). The modern Western world moved to a self-sufficient way of not only the post-industrial, post-economic society but also when fading private property and the market, the motives of acquiring intangible nature, come to power intellectuals. Other countries and civilizations that have exhausted the potential of catching-up, forever doomed to remain on the industrial stage. Countries that are poor and unable to self out of this state, in their opinion, should be controlled from the outside and by force. i.e., against them should use a system of neo-colonialism. “This globalization is there already, but the world in the future it is preparing an environmental, social, cultural and military disaster” (Reflections on the future, 2001).

## 2. THE MAIN PART

Globalization of the economy - it is an objective trend of world economic development; and purpose advanced by the political leadership of the developed countries, primarily the United States and European countries; and methodology of the analysis of economic development of countries and international relations for the development of the economic strategy of the government and TNCs. Global processes have a significant impact on the market of educational services. In today’s economic vocabulary, a new concept of “globalization of education,” which marks the beginning of a new stage of international relations in this field.

There is a sharp increase in the number of students in the world. During the period from 1965 to 1995, the number of students enrolled in higher education in all countries increased 6 times (from 13 million. up to 82 million people). Currently, universities are studying more than 100 million people.

Globalization enhances the integration process. The level of communication between the scientific communities is that the new knowledge gained in some countries, new technologies developed on the basis of this knowledge, becomes the property of all mankind and affect the development process of countries, regardless of national, religious and other features. In 1995, 1.6 million students are enrolled in 50 destination countries worldwide, including 0.9 million people in developing countries, 0.15 million - from the CIS and Eastern Europe and 0.54 million students from developed countries. According to the forecast by UNESCO, in 2025, the total number of students in the world will rise to 260 million people. Foreign students by this time will be 5-7 million.

In modern conditions the system of higher education are being actively implemented in information and communication technologies. The training process is intensified absorption material, free Internet access offers students an interdisciplinary perspective, allowing much greater flexibility to select courses of study and master the content. In other words, there is a “universalization of education.”

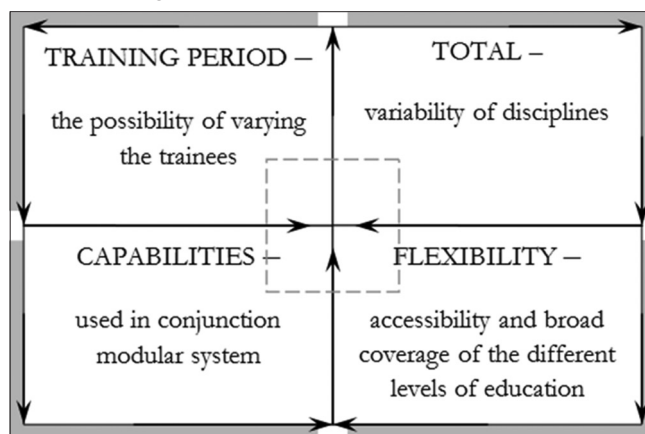
The blocks shown in Figure 1 illustrate the variations increase opportunities for consumers of educational services through the use of Internet technology. These are an increase in outreach to potential consumers of malware, and to create preconditions for the emergence of a system of continuous professional education.

Of great importance is also attached to the development of distance learning. Developed countries have expanded the number of sites with potentially interesting and methodologically sound teaching materials for education. In these countries, every twenty students enrolled in the program of distance education. For example, in Japan, there is even a “Remote Master:” On the job, has successfully completed a course in the mode of “on-line,” employees receive a Master’s degree in Business Administration. In the United States created the world’s first completely virtual school - Jones International University. According to estimates made in 2000, in the United States at that time were more than three thousand. Educational institutions specializing in vocational training in interactive mode (Constructing Knowledge Societies: New Challenges for Tertiary Education, 2001).

We should also note the growth of autonomy and independence of education from the sphere of science. Today, for the execution of orders to carry out research works need specialists in different fields of activity of the many areas of scientific knowledge and, of course, investment. In the countries engaged in research and development, are independent institutions that solve specific scientific strategic objectives. Thus, the education system has lost its monopoly on research.

Globally, there is an expansion of influence of the Anglo-American system of higher education in the educational services market. Moreover, the characteristic of the prevailing role of English in the fundamental education. Note that all computer programs, technical applications, web servers, international conferences are held in English. “Professional literacy level of the teaching staff is determined, including the ability to lead a discussion on the scientific English - the international language of scientific communication and digital computer technologies” (Borisov and Zapryagaev, <http://www.vestnik.vsu.ru/content/education>). Emerging global mega education. The global market for education represented today by three competing markets: (1) The

**Figure 1:** Parameters convenient to use online education in globalization of the education market





North American market; (2) the European market; (3) Australia, New Zealand and Japan.

Investments in this area are considered to be the most profitable form of investment. However, scientific and technological progress has initiated radical changes in social conditions. The pace of transformation of education systems was significantly lower. As a result, there was a gap between education and living conditions of the society, which ultimately led to the global crisis of education.

The main factors of planetary crisis in higher education, most researchers called:

1. Territorial - inability to provide everyone an opportunity to obtain the necessary education.
2. Conservatism - the backlog of acquired knowledge on the level of development of information and communication technologies.
3. The inertia - low adaptability of education systems to the different socio-economic conditions.
4. Local - specificity of the education provided by individual schools.
5. Restrictions - the inability to regional universities wishing to teach the entire spectrum of specialties in an area.
6. Transformation of the goals and values education.
7. Uncertainty place higher education in the social structure.
8. The increase in the danger of reducing the share of state responsibility for the sphere of higher education.
9. The withering away of the state's functions to control the educational sphere as a result of the revitalization of the global business structures.
10. Active implementation of higher education market relations.
11. The high degree of inequality among institutions of higher education.
12. The contradictory and uneven globalization process (Nikolskii, 2004, p. 17).

Conflict of interest in the market of educational services lead to conflicts of interest and at the same time contribute to the search for consensus. Therefore, relations between subjects of the market of educational services is based on the need for collaboration and cooperation of all stakeholders. This phenomenon, in the figurative definition of Kleiner "competition" (competition-cooperation), permeates the horizontal and vertical interconnection of the education market, with each of the subjects of the market participant acts as a competitive and partnerships (Nikolskii, 2004, p. 33; Lukashenko, 2006. p. 48).

Thus, at the end of XX - the beginning of XXI centuries. There have been dramatic changes in the global environment, which could not but influence the role, function, form and manner of functioning of higher education systems throughout the world. Some create new possibilities for the formation, while others are potentially dangerous. Opportunities and threats of changing global conditions are reflected in the Table 1 (The Formation of a Society based on Knowledge, 2003). The potential of a changing global environment - a pleasant environment for reforms, the possibility of economic growth, stabilization of the social situation of the country.

Global processes define knowledge as a priority in the formation of competitive advantages of any country. The comparative advantages of less determined by the wealth of natural resources or cheap labor, and more - innovations and competitive use of knowledge or a combination thereof.

The globalization of education - a controversial, uneven process, constantly changing forms and methods of implementation. Created transcontinental flows and action network, exchanges and power relations. New models of hierarchy and inequality, inclusion and exclusion dissect national borders. There are new problems of social integration, the global level and democratic accountability, because, as rightly pointed out Martinelli, the sovereign power of nation states erode, and their role in global politics varies significantly (Martinelli, 2002, p. 6).

Similarly, TNC, successfully operating in various sectors of the economy, the country's leaders have created educational TNCs that operate in the market. Modern educational TNK - it's mostly non-governmental organizations with non-state funding, but with strong government support. It: NASFA (USA), DAAD (Germany), British Council (UK), CIMO (Finland), IDP Education (Australia), EduFrance (France) and others.

TNCs are involved in the creation of specialized educational centers - their own training systems - corporate universities. Worldwide, there are now about 1,600 such universities, and 10 years ago there were only 400. In the corporate university is widespread so-called "co-operative education," suggesting the alternation of work and study. 10% of students studying in the United States are under these programs. TNCs first came to the realization that a more effective and rapid adaptation of young specialists to the specifics of work in a particular company, will start their own university. For example, this kind of training centers established in the structure of the company "Motorola" and "Intel." In Russia, we can talk about the creation of corporate institutions, companies "Rusal," "Ingosstrakh," "Uralsib," "VTB" (Globalization: The Human Dimension, 2003. p. 18).

For transnational business services market training, retraining and skills upgrading is also an attractive and thereby rapidly mastered. The process of training is fully integrated into the control system. The annual cost of vocational education and training of employees is at least 80-100 billion. In the struggle to improve the quality of education is actively uses the latest technologies and systems training, intensive courses and other innovations. Thus, funds allocated corporation "American Telephone and Telegraph" for training, significantly higher than the budget of the MIT.

In the UK, there is also the practice of cooperation between companies and universities - a system of accreditation of prior learning The Accreditation of Prior Experiential Learning, which was created back in the mid-1990s. The essence of this system lies in the fact that admission to the University takes into account all types of training applicant (courses, college, university, practical experience, etc.). To offset this preconditioning developed a special scoring system loans, which makes it possible to obtain higher education in reduced programs.

**Table 1: The changing global environment: Opportunities and threats**

Factor changes	Capabilities	Threats
The growing role of knowledge	Possibility of sudden growth in some areas of economic development; solution of social problems (guaranteed provision of food, health, water, energy, environment)	The widening gap in knowledge between countries
The revolution in ICT	Facilitating access to knowledge and information	The increase in the digital divide between countries and within countries
The global labor market	Facilitating access to the experience, skills and knowledge gained by professionals	Growth rates of “brain drain” and the outflow of advanced human capital
Political and social change, the spread of democracy, violence, corruption, crime, HIV/AIDS	Favorable conditions for reform	Growth rates of “brain drain” and political instability; loss of human resources

One of the most promising strategies of TNCs, allowing maximum use of scientific and technical potential of the host country, is the creation of overseas R and D laboratories - generators of new ideas, the so-called “Knowledge incubators” (Offshore Knowledge Incubation). Initially, the incubators have a certain degree of autonomy, but eventually become fully integrated in the TNC. They are deeply embedded in the scientific environment of countries (regions) for later use by the latest developments in certain multinationals. With “scientific and technical web” foreign R and D departments of multinational companies (MNCs) “catch” they need the knowledge and information. In this context, we consider it expedient to emphasize that the establishment of R and D networks of TNCs has initiated a new trend of globalization of education - the formation of planetary science and technology network - “Knowledge network.”

In summary: The most important factor of economic development is knowledge. However, knowledge alone does not transform the economy. It is possible to invest heavily in the formation of the scientific and technological potential and do not get a serious economic return for their investments (as happened, for example, in Brazil). Knowledge can bring the greatest benefit when used as part of a comprehensive system of institutions, organizations and various educational processes as much as possible taking into account the interest of potential users.

The globalization of the education market takes place according to certain laws, regulations and trends that govern it, predetermining the course of globalization itself, in turn consisting of a plurality of subsystems and components. The largest subsystem of the global education market are the (MNCs, globalization) and trans globalization DOC (EU, NAFTA, APEC). The next level - it nation globalization education market, which includes competing large state universities regions acceptors with the characteristic of each of its educational policies, history, image, etc.

Region globalization education market is relatively nation globalization education market smaller market competing universities, occupying a niche in providing higher education less prestigious, without a focus on the demand of the labor market. Under micro globalization education market refers to competition between non-state higher education institutions (and possibly the state, whose specialty is not in demand by students, and the students - graduates are not competitive in the labor market) cities and branches of state universities. There is no doubt that

these levels did confirm the presence of the globalization of the education market (Dubyansky, 2005. p. 19-20).

Dynamically developing processes of formation of integration associations caused by the increased mobility of society, on the European continent. Today the largest countries in Europe are considering international educational exchanges and programs as a key component of its foreign policy. As an example of international cooperation at the international level, the education market, we note the Bologna process in higher education and the Bruges-Copenhagen process in vocational education and training, with the goal of creating, by 2010, a single educational space.

The convention on the mutual recognition of diplomas and certificates of education from 49 countries have signed. Among them, Russia is an official member of the Bologna process. The entry to our country in the Bologna process is the recognition of diplomas in all its member countries, at the same time opens Russia to international competition in the field of education. In the developed Common Strategy of the European Union towards Russia identified areas of cooperation, including: Building a mutually beneficial relationship between universities and between universities and companies; the introduction of new systems of higher education and training, the exchange between institutions of students, teachers, scientists, researchers; intensification of research activities in the field of European interests of knowledge; language training; activation of the formation of a qualitatively new level of distance learning and the development of attention to the field of new forms of educational technology. As part of this strategy focuses on the need to implement the principle of availability of higher education to all members of society and the realization of equal rights the knowledge and creative abilities.

Among the programs implemented under the supervision of the European Commission, the very long-term (15 years) is the TEMPUS TACIS, the main purpose of which is the development of systems of higher education in the partner countries. Priority areas of Tempus TACIS are: Coordination of organizational and managerial aspects in higher education, continuing education, the mobility of teachers and students, the integration processes of Russia in the Bologna process, to ensure an effective quality management system of education.

In Tempus TACIS the following projects:

1. The European Tempus project “Mobility of students through the implementation of the European Credit Transfer System.”

2. The project Tempus TACIS “Franco-Belgian-Spanish and Russian cooperation in North Ossetia.”
3. The European project “Support to Public Administration Reform in the Republic of North Ossetia-Alania.”
4. The partnership with the Center for Economic Research and Graduate Education of Charles University in Prague.
5. Opening of the department of information technology on the basis of the North Ossetian State University jointly with the Thai Institute of Technology, University of Tokyo in Japan.
6. The “Advanced education in the field of tourism and hotel business” (Moscow State University, Petrovsky College of St. Petersburg, University of Perugia, Venice and Padua) (Hatsaev, 2005).

The dissemination of knowledge, aimed at bridging the digital divide, active World Bank for Reconstruction and Development (IBRD). Some of the initiatives include the establishment of the IBRD: A global educational network development; African Virtual University; Global Development Network; as well as the world of communication for Development Program (The Formation of a Society based on Knowledge, 2003, p. 176-177).

In globalizing education market are the most important technological advances and institutional innovation in the communications, reducing distances, removing time constraints and eroding national borders, creating a knowledge-based global system of production.

Planetary educational services market and the global knowledge economy is a distributed system with a wide range of geographically dispersed economic functions. First of all, it functions: Add the cost of the components of the activities of global corporations (R and D, strategic production and after-sales service services), labor, capital, goods and services are becoming increasingly mobile and decentralized are powerful trends.

To sum up, select the main manifestations of the process of globalization of the education market: The formation of TNK education, development of IT-technologies in education, the interpenetration of educational and social systems, partnership and co-operation of universities, standardization of educational systems and cultural values. Factors changing education market of higher education, their positive and negative trends and the results of the changes in the course of globalization of the education market are grouped in Table 2 (The Formation of a Society based on Knowledge, 2003).

Speaking about the reasons for increasing the concentration of capital, goods and services, seamless mobility, we should mention, first of all: The development of information and transportation technologies, i.e. Innovation related to the technical infrastructure of the global education market. These changes allow the processes to successfully overcome the global new stages with greater speed and efficiency. Next - the social infrastructure of the global education market provokes the creation of better organizational structure, at each stage, the birth of their training area.

Social infrastructure and training area - a relationship generating innovation, determining functionally significant organizational forms of management, coordination and control “spatially widely distributed activities” on the globalized market of educational services.

The problem of integration of Russia into a planetary educational environment is largely determined by its ability to adapt to a qualitatively different economic conditions and life in general, embedded in a dynamically changing environment.

The country still has “a canopy of higher education” - an overproduction of higher education in comparison not only with the current, but also future needs of the economy. Companies curtail long-term forms of cooperation with educational institutions. In 2006, the share of enterprises that do not co-operate with universities increased from 51% to 65%. At the same time, the company created its own system of training and education. According to the Levada Center, 15% of surveyed enterprises retraining centers exist in 11% - vocational schools, colleges and universities (National Information Center for Science and Innovation, <http://www.sciencrf.ru/client>).

Private investment in education shifted from the basic vocational training in additional educational programs and are increasingly seen as a purely formal, providing the minimum necessary and respite from the army. The real skill acquired additional education in the sector is often in parallel with the primary. In 2005, the cost of domestic enterprises for retraining and further training of its employees amounted to slightly <400 billion rubles.

Russia can provide educational services to foreign nationals. According to the World Trade Organization, the capacity of the global education market is 50-60 billion. The third part of the global financial educational turnover US control. The income from foreign students at 50 times higher than the cost of the higher school of the US government. Second place in terms of sales training takes Britain, which has tripled in the last decade, the reception of foreign students. Germany and France have mastered 10% of the market, Australia, Canada and Spain - 7-8% of the market. As noted above, in 2025 the number of foreign students in the world will increase to 5-7 million people, two thirds of them - are from Asia, especially from India and China (Galushkina, 2004). Consequently, the global education market will unfold the fight for the Asian region.

Annual growth of foreign students and their percentage of the leaders of the countries in the presentation of educational services displayed in the Table 3 (Borisov and Zapryagaev, <http://www.vestnik.vsu.ru/content/education>).

Russia’s share in the world market of educational services by the number of foreign students is 4-5% - in the country studying 100 thousand. Foreign students annual income from their training is 150-200 million USD, which corresponds to 0.5% of the global education market. In Australia, the number of foreign students only 1.5 times higher than in Russia, while the income from their training in Russia 10 times more, i.e. \$2 billion (Galushkina, 2004).

**Table 2: The globalization of the market of higher education: Positive and negative trends**

Factor changes	Positive trends	Negative trends	Results
Globalization	The development of democracy, increasing social mobility	The polarization of the world, “brain drain” from developing to developed countries	The international division of labor
Joining the Bologna Process	Go to the bipolarity	Increased tension between the poles	Integration into European economic and social space
Unification and standardization of education	Russian recognition of diplomas, the intensification of education, shortening training	Lowering the standards of education in Russia to pan-European, increasing social inequality	Social and academic mobility
Integration	Partnership and cooperation	The loss of national characteristics of educational programs	Creating a European educational space
Computerization	Reduces the updating of knowledge	Education pragmatism, humanistic values of distortion, translation of foreign educational projects	Simplifying the formation technology knowledge
Convergence	The interpenetration of education systems	The blurring of national and ethnic identities	Greater coherence of society and reduce the potential for conflict

We believe that strengthening the position of our country in the international market of educational services, perhaps above all, through the sale of “Russian brand product” - of the basic training. Moreover, given the “Asian” features the world educational market, it is necessary to sell services for the training of doctors, managers, sociologists, focusing on low prices of Russian education (Gurieva, 2006).

Socio-economic effects of foreign students: A source of increasing revenues; optimization of expenses for training local personnel; additional revenues from foreign students residing in the country; a form of attracting immigrants with high research potential; the development of inter-ethnic relations.

Competition in the global market for influence is already underway at the geopolitical level. If previously the major service providers in the field of international education have traditionally been the United States, Britain, France, Germany, Australia, Canada, Japan and the USSR, and the policy of attracting foreign students regulated by the state, today the process of globalization of education is realized through political channels, as well as an extensive network of international government organizations.

In the literature, defined the rating of leading universities “Big Eight,” which gives reason to submit the priority of competitive positions of the leading countries in providing educational services (Table 4) (Russia and the “Eight” in 2006, 2005, p. 28-30). Potential areas of activity of our country in the education market are the CIS countries, as well as Russian-speaking immigrants from Russia (who are going to actively cooperate with Russia in the field of business).

If Russia does not undertake vigorous efforts to improve the competitiveness of domestic education and takes the position of an outside observer, it is, unfortunately, in the short term, it will turn into an educational colony, i.e., will broadcast a foreign educational project. With Russia joining the World Trade Organization to quickly come to the major Western educational centers. In this context it is possible with a high degree of certainty that the Russian market of educational services will simply cease to exist. Plans for the TNC are global education. So, in our country they have opened their representative offices (only 15 British Council).

**Table 3: Annual growth of foreign students by country**

Country	The annual increase in the number of foreign students per year; %
Japan	15.8
Jordan	14.6
United Kingdom	13.9
Portugal	13,0
Australia	11.5
Finland	11.3
Hungary	11.1
Denmark	11.0
Cyprus	10.8
Germany	8.4

**Table 4: Ranking of the leading universities in each of the countries “Big Eight”**

Rating the best university in each of the “Big Eight”	The institution	World rankings
United States	Harvard University	1
Japan	The University of Tokyo	14
United Kingdom	Imperial College (London)	23
Canada	University of Toronto	24
France	University of Paris 06	41
Germany	Technical University of Munich	45
Russia	Moscow State University.	66
	Lomonosov	
Italy	Rome La Sapienza University	93

Today, Russia is represented by a set of disparate universities, which is almost negligible on a global scale. In order to promote Russian education on the world market it is advisable to create a national educational corporation under the Ministry of Education and Science. Meanwhile, the state’ actions in this area, unfortunately, are fragmented; the national project in the sphere of education is local and cannot lead to significant changes.

### 3. CONCLUSION

In the process of adaptation to global changes in the market of educational services of higher education a modern university, in our view, should have the following benefits presented in Table 5. Factors benefits presented: Developed network of branches in



**Table 5: The benefits of high school to adapt to the globalized education market: Emerging opportunities**

Factor benefits	Emerging opportunities
The developed network of branches in Russia	Wide coverage entrants segment by geography
Distance education system based on the Internet - technologies	The introduction of educational standards and methods to previously inaccessible sections of the population
Joint programs with foreign universities	Distribution of new educational programs and computer technology training
Highly qualified teaching staff of the university	Averaging computer training and the final implementation in everyday training
Flexible organizational structure of the university	Global average education programs
	The transition to the new standards of learning
	The quality of educational services and the required standards of professional competence
	Proper provision of quality educational services, systematic and timely update teaching methods
	Quick response to consumer needs at the level of the quality of educational services; strategic "adjustment" to the economic and political situation in the country
	The possibility of planned scientific - educational activity and competent management of the university

Russia; distance education system based on Internet technologies; advanced training programs with foreign universities; highly qualified teaching staff of universities speak foreign languages and are regularly passing internship in foreign universities participating in international conferences and symposia; flexible organizational structure of higher education. These factors determine emerging opportunities: A large-scale coverage of students at all signs of segmentation; full computerization of all activities of the university; the actual response to the demands of consumers of educational services and other malware.

Summarizing: The globalization of the education market is interrelatedness and interdependence of organizations, institutions and education. The new specification of educational services market is becoming urgent a series of relationships, "university-business". Is the formation of transnational chains of knowledge, the development of educational technologies, improving training programs, etc. At the same time, this process is accompanied by increased competition between the major players and to turn Russia from a supplier of graduates in the European and US labor markets Seller educational services, we need a multi-faceted, flexible model of cooperation with the international community in the field of education; the desirability of developing sound policies capable of ensuring systemic changes, combining national interests with planetary trends and is based on a partnership between government and business.

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## **Targeted Program Management of the Fruit and Berry Sub-Complex of Krasnodar Region**

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### **ABSTRACT**

This article describes the state support tools and mechanisms for a fruit and berry sub-complex of Krasnodar Region based on program and target technologies. The author offer the assessment indicators of support measures' package realization efficiency for a fruit and berry sub-complex of Krasnodar Region. The results of the analysis of efficiency of realization of these measures are also presented, and the economic-mathematical model of measures' influence assessment of the state support on efficiency of a fruit and berry sub-complex development is constructed, as well as calculation of the operating influences with use of regression analysis methods. The main directions for program tools improvement aim the management of the said sub-complex of Krasnodar Region. The means for this improvement are as follows: The means of the purposes and resources validation, restructuring measures of the state support, innovative and investment development, regarding investment of public funds in introduction of innovative development allocated for productivity increase and for decrease in capital intensity.

**Keywords:** Globalization, Targeted Program Management, State Support, Indicator

**JEL Classifications:** G30, Q02, Q18

### **1. INTRODUCTION**

During the modern period of economical development, the success of the regional branch sub-complexes development in many respects depends on their ability to fast adaptation in the changing conditions. For this reason, specifics of economy restructuring processes on the know region-intensive basis were the reason of shift the "center of gravity" of economic growth on regions (Zakharova et al., 2015; Taranova et al., 2015; Novoselova et al., 2015).

Ensuring food security in the conditions of regionalization and under the progressing influence of unstable world economic system becomes one of priority problems of modern Russia. In this regard, problems of ensuring steady reproduction process in agrarian and industrial complex and optimization of the state support instruments are statistician.

### **2. THE MAIN PART**

Stabilization and increase in fruit production is possible only on basis of system approach to its public administration, which effective tool is the program and target method. Relevance of the program use and target method in fruit growing is caused by its feature consisting in discrepancy of the budgetary funds investment period to the period of receiving results (long-term plantings belong to the fixed business assets, and their return begins for the 3-4<sup>th</sup> year after planting) (Egorov, 2012).

Thus the state regulation of branches of agrarian and industrial complex, which is carried out by development and implementation of federal target programs, often faces problems of effective budgetary funds development ratio and achievement of the planned results. Efficiency of a targeted program management in many

respects depends on the correct creation of the interconnected and interdependent “Purpose - Actions – Result” system, which elements in an optimum combination form affect the emergency.

Unfortunately, the existing situation with federal and regional programs financing doesn't allow to realize the “anti-inertial” potential of a program method. According to Pchelintsev development has to go not on the way of mechanical “sequestering” of the existing software package, but on the way of transition from program “only planning” to program control (Pchelintsev, 2004).

At the same time, in the conditions of a new development paradigm – on the one hand the agrarian economy globalization, and on another – under the influence of the crisis factors and economic restrictions, there is a need for an integrated approach. This refers to the solution of systems' social and economic functioning problems of the region based on targeted program management application. Improvement of methodical approaches to the target programs development, mechanisms of their realization and an efficiency assessment is required.

Krasnodar Region possesses all necessary climatic factors promoting cultivation of fruits and berries with high flavoring and commodity qualities. In the territory of the region there are 69 large-scale and average enterprises, and also more than 250 enterprises of small business forms, they all are engaged in the fruits production. In recent years, the areas of gardens has grown in country farms and now make about 8% of total area. The gross production index so far is 2.5%, but in the introduction process of “young” gardens' fructification this figure is growing considerably. The modern intensive technologies, which are actively applied by the gardening enterprises of Kuban, allow systematical increasing of the fruit crops gross collecting. The crop of the “pome” and “kernel” fruits' types in 2013 was the highest of the last 20 years – 284 thousand tons and (Which is 129% to the level of 2012). Introduction of modern technologies allows significant raising of the production from the specified area, so productivity in intensive gardens of an apple-tree makes 40000-45000 k from 1 hectare (from here on c/hectare; c=100 kilos), while in usual gardens the index is 2-3 times less.

The total area of fruit and berry plantings in Krasnodar Region is reflected in Table 1.

The generalizing result of fruit production is the gross collecting, presented in Table 2.

Analyzing the data from Table 2 it should be noted that in farms of all categories the volume of gross fruit and berry production collecting in general increases by 43.9% and makes 388.66 thousand tons: The pome type – 41.3% increase, which makes 295.93 thousand tons; the kernel type – 56.2% increase, making 56.2 thousand tons; the berry – 41.2%, which is 30.44 thousand tons; and the nut bearing – by 3.3 times = 3.18 thousand tons.

Gross collecting of the fruit and berry production in the specialized agricultural organizations in general has grown by 42.8% and made 277.35 thousand tons; the pome type – for 40.7% also made 252.3 thousand tons; the kernel type – for 78.7% also made

24.66 thousand tons. The considerable decrease in gross collecting volumes in the specialized agricultural organizations of berry and nut bearing cultures should be noted; however, the specific weight of these cultures' types is insignificant.

In 2013 indicators of fruits and berries gross collecting of all region (in the agricultural organizations, in farms of the population and in country farms) was above average value of gross collecting for 2009-2012 and also above target value of the state program of agriculture and agricultural production, raw materials and the food markets regulation development for 2008-2012.

Krasnodar Region shows highly productive activities of the fruit and berry production enterprises of for comparison with the average Russian index. Productivity of fruit and berry plantings is presented in Table 3.

**Table 1: The area of fruit and berry plantings in Krasnodar Region, 1 thousand hectares**

Indicator	2011	2012	2013	2013-2011, %
Farms of all categories	44.735	43.522	43.837	97.0
Pome type	23.916	23.168	22.904	95.8
Kernel type	10.61	10.472	10.712	101.0
Berry	5.272	5.299	5.457	103.5
Nut bearing	4.104	3.677	3.826	93.2
Specialized agricultural organizations	26.2	25.117	25.088	95.7
Pome type	18.4	17.737	17.59	95.6
Kernel type	5.5	5.42	5.437	98.8
Berry	0.1	0.114	0.071	75
Nut bearing	2.2	1.755	1.867	84.9

**Table 2: Dynamics of gross collecting of the fruit and berry production in the Krasnodar Region, thousand tons**

Indicator	2011	2012	2013	2013-2011, %
Farms of all categories	270.07	312.03	388.66	143.9
Pome type	209.48	233.92	295.93	141.3
Kernel type	37.26	50.87	58.21	156.2
Berry	21.56	25.41	30.44	141.2
Nut bearing	0.96	0.93	3.18	331.3
Specialized agricultural organizations	194.158	212.51	277.35	142.8
Pome type	179.49	193.38	252.47	140.7
Kernel type	13.8	18.74	24.66	178.7
Berry	0.77	0.28	0.16	20.8
Nut bearing	0.1	0.06	0.06	60

**Table 3: Productivity of fruit and berry plantings of Krasnodar Region, c/hectare**

Indicator	2011	2012	2013	2013-2011, %
Farms of all categories	74.4	87.3	112.6	151.3
Pome type	114.2	132.1	172.4	151
Kernel type	46.1	60.6	75.1	132.9
Berry	41.7	48.9	56.9	136.5
Nut bearing	2.6	2.8	9.1	350
Specialized agricultural organizations	96	109.2	151.4	157.7
Pome type	128.1	145.0	196.9	153.7
Kernel type	33.0	38.7	68.1	206.4
Berry	60.6	37.8	26.7	44.1
Nut bearing	0.5	0.4	0.3	60

The indexes presented in Table 3 show fruit and berry plantings productivity growth by 38.2 c/hectare, including the pome type on 58.2 c/hectare, the kernel type on 29 c/hectare.

Productivity in the specialized agricultural organizations has also considerably increased, especially on the kernel type – more than twice, at the same time on berry and nut bearing cultures were reduced by 55.9% and 40% respectively.

The state policy of fruit growing development is based on the state program “development of agriculture and regulation of the markets of agricultural production, raw materials and food for 2008-2012” which was prolonged till 2020. The program includes the section directed on implementation of actions for long-term plantings creation stimulation, and creation of conditions for fruit growing development (The Resolution of the Government of the Russian Federation of 14.07.2012 No. 717, 2013).

We will consider efficiency of a targeted program management of fruit growing in Krasnodar Region at the first stage of state program realization (2008-2012). The following measures of the state support of fruit and berry sub-complex development are most fully presented: Subsidies for a planting and works on leaving, the subsidized credits, compensation of part of cost of the acquired resources. The main destination of subsidies – assistance to expanded reproduction of plantings and to increase in volumes of production, carrying out high-quality and technological policy (Shichiyakh, 2013).

One of forms of the agricultural producers’ state support is partial compensation of costs for fuels and lubricants acquisition, mineral fertilizers and toxic chemicals of a domestic production. The purpose of the said activity is to compensate the agricultural producers the difference in growth of the consumed resources’ cost and inflation impacts. However, the amount of compensation payments is insignificant; it doesn’t allow to cover a difference of macroeconomic changes and to give support for technological development of branch.

Production efficiency of fruits increased with acceptance of the state program within which the support of agricultural producers is carried out by means of subsidies and compensations. It allows to carry out renovation of long-term plantings and to reduce influence of macroeconomic changes in economy. However, in our opinion, the standard mechanism of the state support efficiency assessment based on determination of branch development rates compliance to program installations and level of the planned indicators performance (indicators) is inefficient. It is connected with that:

- Under the influence of various economic, climatic and other subjective factors control indicators have considerable deviations;
- It is necessary to consider branch features at calculation of dimension of state support. In such branches as fruit growing, for example, it is necessary to consider specifics of reproduction of long-term plantings, i.e., duration of restoration fund formation due to depreciation charges caused by a high rate of inflation, leading to devaluation of this fund (Shichiyakh, 2013).

Now the technique of the state support measures efficiency determination is based on absolute measures, such as increase in the area and gross collecting production, growth of productivity, efficiency etc. This technique demands essential completion: Introduction of the relative economic indicators characterizing growth of production efficiency and development of reproduction processes is necessary.

Rather serious contribution was made in generalization and increasing know region of the state support of fruit growing development by GNU representatives “The North Caucasian zone research institute of gardening and wine growing.” Supplementing the assessment indicators of efficiency of the fruit growing development state support developed by them it is possible to offer the following indicators:

1. Share of the state support in costs for a planting and work on care of them (Table 4).

For the analyzed period (2006-2012), the growth of the state subsidies by 3 times is revealed. It is caused by increase in costs for a planting and supporting works that allows to hold a share of the state support in limits of the planned norm, making 20%, in 2012 – 21.2%. Definition of a share of the state support in joint costs on a planting and works on care of them expressed as a percentage, allows revealing a contribution of the state in support of development of branch.

2. Decrease in expenses due to reduction of cost of long-term plantings.

Allocated for a planting and work on leaving of a subsidy behind them counting on 1 year reduce the cost of long-term plantings which in turn is base for charge of the depreciation considered when forming prime cost of fruit production (Table 5).

For the period from 2006 to 2012 subsidies grew by 63.8%, and planting cost under the influence of various macroeconomic Indicators (inflation, growth of cost of the consumed resources, etc.) doubled. For 2006-2011 the Indicator of decrease in expenses due to depreciation charges gradually decreases – from 63.4% to 36.1% – provided that economic entities over 60% have deficiency of fund of restoration.

3. A gain of gross output production for 1 rub of subsidies, rub/rub (Table 6) (Egorov, 2013).

Calculation of a gross output production gain for 1 rub of subsidies which makes from 0.44 to 0.93 rub, shows that measures of the state support are insignificant and help given to economic entities is inefficient. Each ruble of subsidies has to bring not <1.5 rub of a gain of gross output production.

Calculation of this Indicator considers specific features of branch, which consist in discrepancy of the period of allocation of subsidies and receiving effect from them.

4. Growth of profitability at the expense of measures of the state support in result of decrease in the current expenses and expenses of capital character (Table 7) (Egorov, 2013).

The data in Table 7 show that the growth of productivity, subsidies and expenses for 2006-2012 period. Growth of profitability at the expense of the state support measures in 2012 makes to 37.4%.



**Table 4: Calculation of the indicator “share of the state support in joint costs on a planting and Ukhodny works”**

Indicator	2006	2007	2008	2009	2010	2011	2012	2012-2006, %
Total amount of the subsidies allocated with the state, million rubles	33.8	73.5	70	50.4	56.8	110	130	384
Total amount of costs for planting and supporting works, million rubles	275.2	399.9	430.5	276.1	212.8	352.8	612	222
Share of the state support in costs for a planting and work on leaving, %	12.3	18.4	16.3	18.2	26.7	31.2	21.2	-

**Table 5: Calculation of the indicator of decrease in expenses due to depreciation charges**

Indicator	2006	2007	2008	2009	2010	2011	2012	2012-2006, %
Annual size of depreciation charges, 1 thousand rub/hectare	11.0	11.7	18.0	21.4	22.6	23.8	24.5	205.4
The size of subsidies for a planting and work on care of them to the introduction in fructification, 1 thousand rub/hectare	84	84	84	104	104	104	162.3	163.9
Considering 1 year estimations	7.0	7.0	7.0	8.6	8.6	8.6	13.5	122.8
Decrease in expenses due to depreciation charges, %	63.4	59.8	38.6	40.4	38.2	36.1	55.1	-

**Table 6: Calculation of the indicator of a gain of gross production for 1 rub of subsidies**

Indicator	2006	2007	2008	2009	2010	2011	2012
Gain of gross output, from the plantings which entered fructification in value terms, million rubles	22	66	30.8	35.2	30.8	47.2	51.8
Volume of the budgetary subsidies for a planting and work on leaving, million rubles	33.8	73.5	70	50.7	44.9	110	130
Gain of production of gross output for 1 rub of subsidies, rub/rub			0.91	0.48	0.44	0.93	0.47

**Table 7: Calculation of profitability growth indicator at the expense of a measures package on development fruit growing in Krasnodar Region**

Indicator	2006	2007	2008	2009	2010	2011	2012
Price of realization, rub/c	1301	1267	1497	1249	1335	1410	1520
Prime cost, rub/c	1091	661.4	820	785	890	940	960
Productivity, c/hectare	111	197	199.8	274.5	210	198	185
The size of subsidies for a planting and work on leaving counting on 1 year, 1 thousand rub/hectare	7.0	7.0	7.0	8.6	8.6	8.6	13.5
The size of compensations on the acquired resources of other branches (fuels and lubricants, SZR, fertilizer), 1 thousand rub/hectare	1.395	1.472	1.521	1.575	1.82	2.14	2.32
Profitability taking into account measures of state support, %	28.1	104.9	92.6	67.0	58.9	59.2	58.3
Profitability without measures of state support, %	19.3	91.6	82.6	59.1	50.0	31.8	20.9
Growth of profitability at the expense of measures of state support, %	8.8	13.3	10.0	7.9	8.9	27.4	37.4

The assessment of the state support influence on efficiency of a fruit and berry sub-complex, and calculation of the operating influences are carried out based on system of regression models. For an assessment of efficiency of measures of the state support for the first indicator, we will construct regression model and we will carry out an economical and statistical assessment of its parameters. The equation of regression has the following appearance:

$$Y = -1117.67 + 70.54x - 1.386x^2 + 0.0088x^3$$

where, Y – a gain of gross output in the specialized fruit enterprises; x – the size of subsidies for a planting and work on care of them to the introduction in fructification.

The regression equation allowing to estimate efficiency of measures of the state support and to calculate their expected size on the second Indicator has an appearance:

$$Y = -21.59 - 0.59x + 0.006x^2$$

where Y – growth of profitability of production of fruit and berry production at the expense of measures of the state support;

x – the size of subsidies for a planting and work on care of them to the introduction in fructification (Shichiyakh, 2013).

The generalizing characteristic of the correlation and regression analysis characterizing influence of measures of the state support on efficiency of development of a fruit and berry sub-complex is provided in Table 8.

The elasticity coefficient on the first indicator is equal to 2.6, i.e., at growth of subsidies (measures of the state support) by 1% the volume of gross output on average will increase by 2.6%. This coefficient allows determining the expected size of subsidies and other measures of the state support for achievement of branch development indicators of fruit growing reflected in the state agriculture and the food market development program.

The elasticity coefficient on the second indicator is equal to 0.5, i.e., at growth of size of measures of the state support by 1% growth of profitability of fruit and berry production makes 0.5% points.

The second stage of the state program realization assumes creation of the long-term plantings stimulation and creation of conditions for fruit growing development. Target indicators of fruit growing development within realization of the STATE program are presented in Tables 9 and 10 (The resolution of the Government of the Russian Federation of 14.07.2012 No. 717, 2013).

For realization of the specified actions for creating the long-term plantings, stimulation and creating conditions for the fruit growing development of the following state support types are provided:

- Subsidizing part of the cost of stubbing retired from service and the restoration of old orchards uprooted areas aimed at restoring the garden cycle and fito-sanitary condition of orchards by stubbing retired from service of old gardens, reclamation areas and the renovation of the plantations;
- Subsidizing part of the garden creation cost, and long-term care for the fruit and berry plantings, aimed at supporting creation and long-term care for the fruit and berry plantings until they become marketable fruiting period;
- Funding of research and development mechanical work aimed at the development of new resource-saving technologies of perennial fruit and berry crops cultivation, storage of fruit and berry products. That enhances productivity and quality of products, the development of resource-saving mechanization of labor-intensive processes in the gardening and nursery, new varieties and efficient technologies for cultivation of grapes, holding a clonal selection of autochthonous grape varieties and establishment of lands sufficient for grapes growing. (The resolution of the Government of the Russian Federation of 14.07.2012 No. 717, 2013).

The purpose of the state support for the industry generally is to ensure the expanded reproduction of economic entities' resources,

which is impossible without the optimum combination of private (reassigning part of net income) and public funds (subsidies).

Horticultural enterprises face difficulties in forming the required amount of funds for the implementation of planned renovations. Regulatory need for financial resources for the implementation of the planned renovations in 2013 is 760 thousand Rub/hectare (Ha) of orchards, of which 38.4% (291.8 thousand Rub/Ha) of the source of funding shortages.

The shortage of funds for ensuring planned renovations and expansion of reproduction processes are proved in works of the above mentioned authors from the North Caucasian zone research institute of gardening and wine growing.

The retrospective analysis allows us to define that effect of the measures for implementation of planned renovations established in a state program for 2020 becomes impossible under the influence of the following factors: Decrease in own reproduction opportunities; reductions of volumes of the state support; growth of cost of the consumed resources as a result of macroeconomic price fluctuations (price disparity).

Describing the tools of state support for the poultry industry of Krasnodar Region, the following main areas of adjustment tools and software control of the target fruit and berries sub-complex of the Krasnodar Region:

1. Validation of the purposes and resources of the state program. Within this direction, in our opinion, it is necessary to increase and optimize volumes of the state support; however, rules and requirements imposed by the World Trade Organization (restriction and gradual reduction of measures of state support within "a yellow basket") don't allow to carry out this action. In this regard, a way out from current situation may be the idea and actions recommended by scientific North Caucasian zone research institute of gardening and wine growing on restructuring measures of the fruit growing state support (Egorov, 2013). It is logically correct and promising to revise

**Table 8: Results of the correlation and regression analysis characterizing influence measures of the state support on efficiency of development fruit and berry sub-complex**

Indicator	Productive indicator	Factorial sign	Confidence coefficient	Elasticity coefficient
Gain of production of gross output in value terms	Gain of production of gross output ( $Y$ )	The size of subsidies for a planting and work on leaving to the introduction in fructification ( $x$ )	0.98	2.6
Growth of profitability of production of fruit and berry production (profitability of production)	Growth of profitability of production ( $Y$ )		0.94	0.5

**Table 9: Indicators of the sub-program "Gardening development, support of a planting and care of long-term plantings and vineyards" development**

Indicator	2014	2015	2016	2017	2018	2019	2020
The area of a creating the long-term plantings in the Russian Federation, 1 thousand hectares	6.4	8	7.5	6.4	6.4	6.4	6.4
The area of a creating the long-term plantings in Krasnodar Region, 1 thousand hectares	1.1	1.2	1.2	1.2	1.3	1.3	1.3
Existence of long-term plantings for the beginning of year (gardens) in Krasnodar Region, 1 thousand hectares	34.3	34.4	34.4	34.5	34.5	34.6	34.6
Gross collecting fruit and berry plantings, 1 thousand tons	184	187	190	193	196	201	206

**Table 10: Amounts of financing of the sub-program “Gardening development, support of a planting and care of long-term plantings and vineyards” in Krasnodar Region, thousand rubles**

Indicator	2014	2015	2016	2017	2018	2019	2020	Total
Development of gardening, tea growing, support: planting and care of long-term plantings, all	470526	471496	536636	580992	577212	576017	566717	3779599
Federal budget	0	0	0	0	0	0	0	0
Regional budget, including:	47442.9	47875.2	53580.6	96967.0	96693.9	97169.7	95923.0	535652.3
Subsidies to producers in order to recover part of the costs of care for the bookmark and perennial plants at the expense of the boundary budget	37045.4	37477.7	43183.1	58508.0	58560.9	59321.7	58170	352266.8
Subsidies to agricultural producers for the purpose of cost recovery for stubbing retired from service and the restoration of old orchards uprooted areas due to boundary budget	485.1	485.1	485.1	3690.0	3510.0	3240.0	3150.0	15045.3
Subsidies to agribusiness, ensuring the development of horticulture, for reimbursement of expenses in connection with the stubbing of gardens aged <30 years	100	100	100	10455	9945	9180	8925	38805
Subsidies to agribusiness, ensuring the development of horticulture, for reimbursement of the cost of installing trellis in the gardens of intensive type	2000	2000	2000	2550	2525	2500	2475	16050
Subsidies to agriculture, ensuring the development of horticulture and tea growing, for reimbursement of expenses in connection with acquisition of drip irrigation systems gardens	5327.9	5327.9	5327.9	10815	10815	10815	10815	59243.7
Subsidies to agribusiness in order to recover the costs in connection with the activities for the development of infrastructure in the nursery gardening	1693.6	1693.6	1693.6	5061	5400	5625	5850	27016.8
Subsidies to agriculture, ensuring the development of horticulture, for reimbursement of the costs of breeding activities in the field of horticulture	195.1	195.1	195.1	288	288	288	288	17373
Subsidies to agricultural producers, ensuring the development of horticulture, for reimbursement of the cost of interest on loans for the purchase of agricultural machinery for horticulture	0	0	0	3500	3500	4000	4000	15000
Extrabudgetary funds	423083	423621	483055	484025	480519	478848	470794	3243947

the coefficient ratio between the level of intensity of use acreage towards its increase.

The binding of this coefficient to deficiency of current assets and its adjustment according to indexes deflators would allow to increase partially volumes of the state support and to compensate additional costs of processing, protection and fertilizer of long-term plantings.

In our opinion, possibility of revision of actions for support of domestic producers on subsidizing of a planting costs and care of long-term plantings to the introduction in fructification regarding its goal-setting is also perspective.

2. Reduced capital intensity. The program involves the allocation of funds for the installation of trellis system and drip irrigation systems, which reduces net income by increasing costs of depreciation expense. Thus, subsidies for agribusiness entities, ensuring the development of horticulture, for reimbursement of the cost of installing trellis in the gardens of intensive type and costs in connection with acquisition of drip irrigation systems distort the reproductive processes of significant capital investment to install them. A promising solution to this problem may be innovations in the field of stunted agrotocenozov on no tapestries basis, as well as stimulation of businesses subsidy costs for the purchase of these types of plants. This area can be considered as measures to improve the environment, productivity and reduce the anthropogenic pressure, and therefore, it is

possible to consider the inclusion of these measures in the “green basket.”

### 3. CONCLUDING REMARKS

With increasing international political and economic pressure on the Russian economy, including the markets of agricultural products, increase the level of state support for the industry agro-industrial complex and is the only “life” necessary to stabilize the economy of agricultural production and ensure the reproduction processes of its branches.

Develop and validate economic and mathematical model evaluation of the effectiveness of state support of a fruit sub-complex of Krasnodar Region, based on the revised criteria of optimality and limitations, chief among which is the balance of objectives, resources and the resulting parameters. Optimizing the portfolio of projects and programs in accordance with priorities, promoting the integration process of planning, monitoring and controlling the effectiveness of achieving the targets of development of fruit growing in the Krasnodar Territory, as well as the evaluation of the effectiveness of its implementation should be based on the reproductive approach.

Summing up, it should be noted that the effective combination of territorial and sectorial management program-target planning

ensures the development of the reproductive processes in fruit growing, however, in this case, the calculation of the volume of state support should come from the planned level of reproduction processes, providing the benchmarks of developed programs.

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## **Psychological and Managerial Problems of Modern Higher Education**

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### **ABSTRACT**

The article deals with the psychological and managerial problems of modern higher education, socio-economic features of the system of higher education in Russia, the hierarchy of the objectives of educational psychology, methods of improvement. The paper analyzes the problems of psychopedagogical process of high school the principal of which is the formation of the model (profile) specialist, regardless of a particular profession, as well as a flow model of the core competencies of information technology graduate economic direction of institute. Technological model allows to visualize the whole process of acquiring the students the necessary information, knowledge, skills and experience and thus achieve the level set by the state educational standards, forms the key information and technological competence of the future expert - economist, a graduate of institute reflects the structure, orientation and sequence of the training activities. The article presents the 11 blocks of technology model with a detailed description. The authors concluded that the psychological, pedagogical and managerial tasks are complex; they can be solved by means of modern psychology, pedagogy and teaching methods. This synthesis must be carried out within the framework of an educational institution all the means of education.

**Keywords:** Education, Managerial Problems, Teacher, Psychology

**JEL Classifications:** A20, H70, I20

### **1. INTRODUCTION**

Modern education system objectively cannot exist without the full participation in the solution of its problems of scientific psychology. All educational processes have a powerful psychological projection, considering the psychological aspect and functioning. Educating a person - is the process of training and education and the transformation of the individual in person. The modern world is characterized by an intensive expansion of contacts, interaction and communication spheres people increased geographical and virtual freedom of movement rights, rapid inserting or integration of the individual in different social communities, projects to do with it, there are many dangers as a result of such integration. All this is a lot of psychological and managerial changes the face of modern identity - its focus, numerous manifestations in the psyche and behavior, intergroup

and interpersonal relationships. The modern system of education must take into account the changes in the scope of the needs, motivations, values and aspirations of the modern individual, his mental image, especially interpersonal relationships, including teacher-student. This is especially true for the system of higher education because it involves the future specialists, participants of all major economic, cultural and social relations.

### **2. LITERATURE REVIEW**

In 1927 Vygotsky in "The historical meaning of psychological crisis," assessing the state of the psychology of his time as a crisis, the underlying cause of the crisis seen in isolation from the practice of psychology. This study anticipates an epigraph: "The stone which the builders despised has become the cornerstone ..." (Vygotsky, 1981) under the stone just

understood practice. A necessary condition for overcoming the crisis, according to Vygotsky, a change of practical psychology in science: The practice should become the cornerstone of science. According to the national psychology Vasiljuk separating and developing attitudes Vygotsky, currently there is not a crisis, its basic negative symptoms of schizophrenia, i.e. splitting our psychology, “psychological practices and psychological science live a parallel life as two subpersonalities dissociated personality” (Vasiljuk, 1996; Finaev et al., 2015). We consider it necessary to note the outstanding contribution to the problems of the professor, academician Rubtsov in the study of patterns and mechanisms of educational activity (Rubtsov, 2010; Rubtsov and Margolis, 2010). On the basis of the activity approach and cultural-historical psychology of Vygotsky, Leontiev and Davydov. Rubtsov was one of the first domestic psychologists consider projects related to the development of education, both secondary and professional psychological, pedagogical and managerial. Under the leadership of Rubtsov it developed scientific concept of cultural-historical type of school. They formulated the theoretical and methodological framework for the assessment of the educational environment of high school, including a system of criteria of psychological-pedagogical examination of educational space (Rubtsov and Margolis, 2010; Rubtsov and Ulanovskaya, 2010).

On the psychological congresses and conferences in the fields of modern scientific periodicals regularly discussed the need for the connection between theory and practice in educational psychology. We watch as the self-respect to the independent existence of the theory and practice. Psychology - the science, designed to serve man remains closed in themselves and for themselves. Many serious ideas are discussed, tested, but not implemented and remain on paper.

### 3. MATERIALS AND METHODS

To address this question it is necessary to analyze the socio-economic characteristics of a system of education:

- In terms of development of professional competence of students of the obvious difficulty is a timely response to the dynamics of education and social and economic conditions in society;
- The main reproach higher education is cut off from the real areas of production;
- University training do not always take into account the social contradictions of the modern world. Economic stratification of modern society largely affects relations among students and among teachers, the lack of a well-defined system of values in life and ethical standards is the uncertainty relations in high school;
- Psychological and managerial problems arise because of the unwillingness of students to the creative process, students are more focused on the reproductive method of learning;
- The uncertainty of the control of the university, the lack of clear methods of evaluation of the student competencies, technology assessment of professionalism of graduates;
- The system of higher education is poorly developed self-awareness and self-learning that is connected with mental

coloration identity and orientation of students on a degree as a result of the educational process;

- A major component of the educational process - the role of the teacher of disagreement between the supporters of the process of democratization of education and advocates of authoritarian management style of communication;
- And finally, the painful issue related to the modernization of education in order thereby, and how the modernization, as it affected the quality of education.

## 4. ON THE SUBJECT OF THE PSYCHOLOGY AND MANAGEMENT OF HIGHER EDUCATION

Higher school of psychology uses knowledge of general psychology, social psychology, developmental psychology, work psychology, psychophysiology. As well as achievements of modern pedagogy. Psychological and managerial regularities of the processes of training and education - is the subject of the psychology of higher education. The methods of the research question are methods and techniques of various studies such as observations, experiments, interviews, discussions, surveys, analysis of the products activities, educational assessment, content analysis, modeling (including the use of computers) and training.

The central figure in educational psychology is the personality, the personality and identity of the student teacher, teacher, educator and psychologist. The individual becomes a person in the most complex multilateral process of socialization. Personality has social motives, means and ends in the process of creative activity. Personality traits depending on the biological characteristics of the micro and macro environment. Personality is the object and the subject of the environment, the individual form of existence and development of social ties and relationships. In the process of socialization plays an important role family, religion, the state. The higher education system receives an order regarding the finished “product” of society, home, school education, informal spontaneous formation. It is at this stage of formation of the personality acts as a source of creativity, uniqueness and originality, it is the bearer of a unique experience and a potential creator of a new, original in science, economy and culture. Depending on current research and applications in the foreground will inevitably serve different aspects of the concept of “personality.” Teaching process is always of a bilateral nature, purpose of training and education can be analyzed not only a teacher but a student in practice that the students want to teach them, but few people want to subject themselves to voluntary education. Especially now that the process of education has become a process of providing educational services.

## 5. PSYCHO-PEDAGOGICAL AND MANAGERIAL AIMS AND OBJECTIVES OF HIGHER EDUCATION

In order to successfully meet the challenges of higher education is necessary to:

- Analyze the history and current state of higher education in Russia, to introduce the participants of the educational process with modern interpretations of pedagogical and psychological, management and economic sciences, with the trend of higher school at the present stage;
- Promote a psychological and pedagogical thinking of the participants of the educational process, namely to recognize the uniqueness and individuality of each student, to form relevant to the person as the supreme value of the individual wearer and psychological abilities and opportunities;
- Foster the professionalism of teachers, the establishment of relations of partnership and cooperation between the participants in the educational process;
- Provide scientific and practical analysis of the characteristics of teachers of higher education.

The main task of psycho-pedagogical process in higher education is the formation of a specialist model (profile) expert, specialist profile description is the original premise for the preparation of curricula and training programs. Model solutions specialist becomes a tool of psychological, pedagogical and managerial problems in the course of its preparation. It should take into account the hierarchy of objectives of higher education. Description of the profile of experts is the starting premise for the preparation of curricula and training programs.

1. At the first level are the goal of training, regardless of the particular profession that must be determined by the features of a historical epoch. In our time, a number of such challenges include environmental education, continuous post-graduate education and the problem arising from the collective nature of most types of modern business.
2. The second level of problems is formed at the level of the specific problems for our country in the information society, a paradigm shift of education. In preparing the specialist must take into account inter-ethnic relations, modern Russia's geopolitical position and economic conditions in the target of the sanctions, to give social and psychological orientation specialist.
3. The third level - the actual job tasks and competencies, the largest in terms of volume and variety of tasks. With the system of higher education specialist should learn to solve research, practical and educational objectives.

In determining the content of the program of courses and teaching methods of disciplines is necessary to consider another important factor. Each knowledge or skills that are necessary to form a student for the successful solution of the problem of the intermediate level, there are at least three layers, three relatively independent components: Substantive, logical, psychological and managerial. For the implementation of psycho-pedagogical goals and objectives requires the use of various forms and methods based on principles of developmental education, to create a favorable learning environment for teachers and students, undergraduates, graduate students and for all participants in the educational process. In the lectures must be a problematic presentation of the theoretical course, on practical, seminars discuss the results of an independent, research, creative work of students at all levels of higher education.

## 6. TECHNOLOGICAL AND MANAGERIAL MODELS OF KEY INFORMATION TECHNOLOGY COMPETENCIES GRADUATES OF ECONOMIC TRENDS

Technological model should allow to visualize the whole process of acquiring the necessary student information, knowledge, skills and experience and thus achieve the level set by the State educational standards.

The 1<sup>st</sup> block of the technological model defines an object modeling - the educational process at the institute. In a study of our problem, we relied on the competence approach to the phenomena of psycho-pedagogical reality. Under the information technology training of future specialists will understand the process of formation of information technology knowledge, skills, personal experience and education of emotionally-valuable relation to him. The learning process we look from the perspective of the teacher (teaching) and the activities of the student (teaching).

The 2<sup>nd</sup> block of the process model includes a description of the features of the work of economist or manager today. Economists and managers have to process large amounts of information, and be based on its analysis of management decisions. It occupies an important place of its ability to use new information technologies in the sphere of economy (Shkurkin et al., 2015; Kobersy et al., 2015).

The 3<sup>rd</sup> block of the model describes the design principles of the content of information-technological preparation of the future economist. To the system we have carried the following principles: The humanization of higher education, democracy, biodiversity, integrity, continuity, continuity of information technology training, integration of disciplines, competence oriented education, basic, intensification and regionalization of education, environmental, conditionality and tolerance. The principles should allow to select content, methods and means of information technology training. Their observance is mandatory for the organization of teaching - educational process.

The 4<sup>th</sup> block includes the contents of information and technological training. The main element of the new content is subjective information and technological knowledge. As written Medvedev and Alexandrov: "Creating a new subjective knowledge occurs in the course of activities which, when it is in the nature of direct modeling and implementation phases of research - the production cycle, that is a process of transformation of knowledge into work" (Medvedev, 2003; Shirin, 2015). Information and technological knowledge through the economy is due to human activity and production. Shaping the content of the information technology training can be based on the model proposed by Markushevich in the base of which is the idea that scientific and technical information, the full range of scientific knowledge as a whole and each scientific discipline alone should have the "core" and "shell." As the "core" is allocated a set of theoretical knowledge, principles, basic concepts and laws. "Shell" is associated with the actual material and application, reflects the specificity of the

future professional activity of the student (Markushevich, 1973; Prokofieva et al., 2015).

Information and technological knowledge plays an important role in the formation of economic thinking of the student. We see this as the way to the formation of future specialists systematic knowledge of the most common ways of working. The content of the information technology training future economist include: Basic information and technological knowledge of general theoretical issues related to the representation, transmission, storage and processing of information using a computer, the general principles of architectural design and operation of hardware and software; specialist skills that make it suitable for the implementation of professional activities (organizational, informational, communication, design, research necessary for the implementation of economic activities with the use of information technology); skills in information technology transfer knowledge from one sphere of activity to another; ability to find patterns in a variety of objects and processes of economic activity, to simulate the patterns of information technology in order to create models of economic systems and processes; emotional and value attitude to information technology activities; personal experience of information technology activities; the interaction of stakeholders as carriers of information technology culture.

The 5<sup>th</sup> block includes a description of the level of formation of information-technology skills. The main result of the application of the experimental method should be the formation of the whole personality of the student, his information technology culture, professional knowledge and skills. We will consider all levels of formation of key information technology skills. Together, they make a contribution to achieving the ultimate goal of education - student mastery of high level of competence. Identifying the levels of formation of key information technology competencies in the process of design and training activities at the Institute, we note that the concept of "level" is the dialectical nature of the process of formation of key information technology competencies in terms of design and training activities Institute, and allows us to understand its properties and communications. The transition from one level to another shows the process of formation of key information technology competence of future economists, while the integrative properties of the prior art does not disappear and turn into more sophisticated. Formation of professional competence in the process of design and training of future economists will be determined by a three-tier system: A "low" (first level), "average" (second level), "high" (third level).

The 6<sup>th</sup> block describes the procedure for the selection and application of indicators of quality information technology training. To determine the quality of the training we used the degree of formation of the components of key competences. Control of the results was carried out by us on the basis of statistical processing of indicators. Definition of indicators possible to move from the qualitative evaluation of the educational process to quantify. A significant increase in the effectiveness of information-technology training can be provided if it is implemented on the basis of modern educational technologies and monitoring its

quality. Good computer skills, e-mail, Internet increases the awareness of students, attaches it to the world of science and art.

The seventh unit describes the psychological, pedagogical and managerial conditions of formation of information-technological preparation of the future economist. Knowledge cannot "teach" you but can only create the conditions for their formation in the process of mastering the material and spiritual culture. Pedagogical conditions of information-technology training, we were divided into didactic, psycho-pedagogical, organizational and pedagogical. After studying the pedagogical conditions of formation of information-technological competence and their components, we turn to the definition of methods and means of formation of key competencies in information technology training in the Institute.

The 8<sup>th</sup> block describes the methods of formation of information-technology skills. Under the method of teaching, we understand ways of working that are used by teachers and students in their joint efforts to achieve the goals of education (Hiemstra et al., 2015). As one of the teaching methods we use training - research. In the classroom, students receive tasks in the form of teaching and research tasks, for which required not only the activation of existing knowledge and skills, but also the synthesis of new knowledge for the student, which is called the new subjective. In addition to teaching and research applied such organizational and pedagogical methods, as an individual and independent work of students, performance of course projects using a computer, individual work. Independent work - one of the most important forms of training and learning activities of students. Ushinsky wrote: "The school must organize work so teachers and students, children, wherever possible, worked independently and the teacher directed this independent work and gave him the material for" (Ushinsky, 1990; Beloglazov et al., 2015). The effectiveness of independent work of students depends on the thoroughness of its preparation and guidance from the teacher.

The 9<sup>th</sup> block describes the means of formation of information-technology skills. As a didactic means we used learning activities. The contents of these tasks is chosen so that in the process of implementation of a student formed various information technology competence. Learning tools are also computing and service equipment, software, training and manuals, tests and other teaching materials support the learning process. Selection of the most effective methods and means for a specific training session, it is one of the highlights of the learning process. Analyzing the methods and means of learning must take into account their continuous improvement. When using the methods and means it is important to take into account the fact that the same method or means may be effective under certain conditions, and totally unacceptable in other.

The 10<sup>th</sup> block describes the process of implementation of the training methods. An important step in the accounting process is the procedure of interpreting the results obtained when operating with the process model. Indeed, these results tend to have a greater degree of generality and because of their abstraction cannot always be directly applied to solve some specific practical problems. Therefore, a procedure for specifying the information received in relation to the learning tasks. Selects teaching methods should



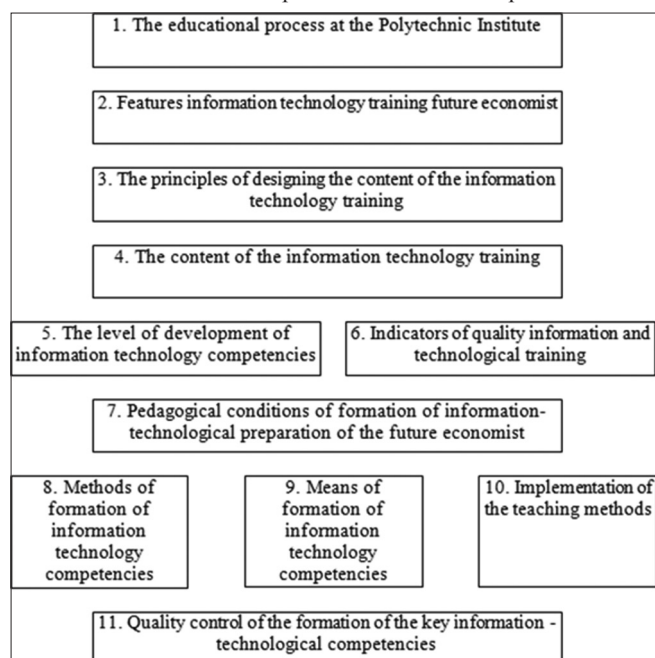
focus on subjective synthesis of new knowledge by using new information technologies in the course of studying of disciplines of economics. Thus, the interaction of information and economic expertise are important. This interaction contributes to the formation of the new and it cannot be reduced only to the original knowledge, which is an expression of the system properties of the combined knowledge.

The 11<sup>th</sup> block describes the quality control system of the formation of the key information - technological competencies. Monitoring carried out in the course of teaching of copyright and in the psycho-pedagogical experiment. Creating a monitoring system requires the definition of criteria and indicators. Under the criterion will be understood indication on the basis of which the evaluation, definition or classification of anything. For our study as a criterion, we have the level of development of information technology competence. It provides a qualitative criterion to assess the condition of a property of the object being studied. The index expresses the numerical value of the criterion, and allows you to measure quantitatively the property. For example, the rate of formation of the competence criterion level is defined as the numbers of students who have reached a certain level of knowledge, skills, experience, make up the content of competence to the total number of students of the experimental group.

Thus, the technological model of formation of key information technology competence of the future expert - economist, a graduate of Institute reflects the structure, sequence and orientation of educational activity. Technological model should allow to obtain the following results (Figure 1):

- The general laws of organization of the educational process;
- The sequence of actions of teachers and students,
- Criteria for selecting the best of forms, methods and means of instruction;
- Conditions of the educational process at the Institute;

**Figure 1:** The technological model of the formation of key information - technical competence of the future expert-economist



- To determine the method of monitoring results; forecast of the learning process.

## 7. CONCLUSIONS

As one of the most important conditions for the successful functioning of the higher education system is the availability of advanced innovative psycho-pedagogical methods of educational process when the method is a conductor between the objectives set forth in the federal state educational standards and a specialist with the necessary set of professional competencies. Specialists with the entire arsenal of modern approaches to solving professional problems - a confident person capable of solving any professional, socio-cultural and educational problems in the society. Psycho-pedagogical tasks are complex, they can be solved by means of modern psychology, pedagogy and teaching methods. This synthesis must be carried out within the framework of an educational institution by all means the educational process: In the preparation of training programs, curriculum development, determining the forms and methods of learning, but the central figures remain students and teachers. It analyzes the teacher, activates, stimulates the learning activity, the psychological and managerial climates in the learning processed it is the central figure of an educational and adaptive process in the educational environment of high school.

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# The Role of Education in Economic and Social Development of the Country

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## ABSTRACT

The article said that in the current context, education is an important component of social and economic development. Company represented by the public, corporate, private sector households across the demand for professionals in the goal-setting exercise education. I must say that the accumulated knowledge (scientific, methodological, spiritual) provides a level of education of population, databases and knowledge bases. Implementation possibilities of society is carried out in the research, cultural, industrial, business and other activities in the form of suggestions of experts. In turn, the effectiveness of the educational system and its development is based on three defining principles - accessibility, quality and security.

**Keywords:** Education, Socio-economic Development, State, Educational Services

**JEL Classifications:** A20, P35

## 1. INTRODUCTION

A distinctive feature of the XXI century is to accelerate innovation in the rapid deployment and contradictory processes of globalization. At the heart of the new global world order are the backbone links interrelated phenomena of knowledge, human and economic. Reality of this world dictate to improve the quality of higher education, which implies a radical change in the structure and content of training, the introduction of modern educational technologies. In the context of globalization and increasing competition in the economic sphere, higher education becomes a competitive environment. A necessary condition for the growth of competitiveness of educational services of higher education institutions on a global scale to improve the quality of higher education. The current state of the national system of higher education does not correspond to the changed realities of public life, the needs of business and the labor market. Integration of Russian higher education in the world and, above

all, the European space through the implementation of a high intellectual potential of international educational standards involves the development of a national system to ensure the quality of educational services.

The quality of educational services is a multidimensional category, encompassing all of its functions and activities: Educational programs, research, human resources and logistical base, so the evaluation of the quality of higher education should be based on multivariate analysis, the structure of education, its content, technology, training, resource potential of universities. It is the basis for the development of a conceptual model to improve the quality of educational services. The feasibility study identified the boundaries of angles isolated invariant with respect to the components of partnership strategies of government and business in the system of higher education in the conceptual modeling of new integrated structures involved in socio-economic development of the region in the horizontal plane of the education market.

## 2. THE MAIN PART

In modern conditions, education is an important component of social and economic development. Company represented by the public, corporate, private sector households across the demand for professionals in the goal-setting exercise education. Accumulated knowledge (scientific, methodological, and spiritual) provides a level of education of population, databases and knowledge bases. Implementation possibilities of society is carried out in the research, cultural, industrial, business and other activities in the form of offers of experts, and the effectiveness of the educational system and its development is based on three defining principles - accessibility, quality and security.

The key role of education requires a special relationship to him by society and the state, determines the dynamics of socio-economic development, acts simultaneously on two interrelated and interdependent markets - market of educational products and services and the labor market.

Education - this is one of the most dynamic and investment attractive areas of the market economy. According to expert estimates, in the developed countries, the rate of annual increase in the volume of demand and supply of educational services is 10-15% (Litvinova et al., 1997).

William Petty, the first focused on the high importance of citizens' wealth of knowledge as an element of the wealth of the kingdom (Petty, 1940; Petty et al., 2000). Adam Smith compared the person with a pre-acquired specific knowledge and skills, with high-tech expensive machine: "... The work done by the machine until the occurrence of wear and tear, return on investment in its capital, bringing a profit of at least normal levels. Man, get an education, it can be compared to an expensive machine discussed above. It is believed that the work that he has learned to perform, to be paid above the wages of ordinary employees, and allow him to recover all the costs of education, bringing a profit, which, at least, brings generally equal assets, but it must be done in a reasonable time" (Smith, 1962; Kobersy et al., 2015).

In the works of Fisher capital it is seen as a category that characterizes the labor skills of people, raw materials, natural resources, which brings transformation later return in the form of services or products (Fischer et al., 1992). Say, Senior, Mill, Irving Fisher wrote about the "human" form of capital, by which they mean the theoretical knowledge and practical skills. They believed that the investment in time and labor associated with the receipt of an education, must serve as a source of increased productivity growth, and as a consequence - increase the revenue base of the company (Say, 1986).

Issues related to the educational services market (DOC), with investments in human capital were first covered in the works of Marshall, which states that education enables many who might die in obscurity, to be able to expand their potential abilities (Fisher, 1987).

List claimed that the welfare of all humanity and the separate state is not associated with material wealth and the level of development

to create it and be reimbursed the cost of education in many areas and outside areas (Marshall, 1993). According to the statement of the American scientists Grayson and Della, "education is directly related to competitiveness. No society can have high-quality products without high-quality raw materials. Education creates a 'human capital,' which is in conjunction with 'physical capital' and gives an increase in productivity and quality. That was always true, but it is doubly true for the global economy is technically difficult" (Liszt, <http://economicus.ru/cgi-ise/gallery>).

The concept of "human capital" was formed into a single concept in the late 1960s. Schultz, Becker, Denison, George. Kendrick, Robert Lucas - the founders of the concept of human capital considered education not only by the consumption of certain forms of educational services, but also on the part of productive capital investments (Toffler, 1980). So, Mr. Becker was first used method for evaluating investment in physical capital for comparing the efficiency of investment in human capital, using which he analyzed, changes in the distribution of income after increasing the level of human capital among the masses as well as the effect of the reproduction process on the welfare of individual countries (Becker, 1993).

In the USSR, Russian researchers analyze human capital wore mostly critical, determined secondary importance to this category. In modern Russia, the concept of "human capital" was studied systematically with the production, organization and management of educational services highlights the following authors: Dobrynin, Dyatlov, Kapelyushnikov, Crete, Chekmareva, Shchetinina et al. (Becker, 1993; Kendrick, 1978; Kapelyushnikov, 1981, Kuznetsova, Forecasting and monitoring of the market of educational services and Schetinina, 2001).

For example, Gevorgyan, considering human capital as an economic category, he emphasizes that "the human exploration of information (knowledge) is transformed into an important resource for the development of production, and investment in human capital is becoming a priority for economic growth. This, in turn, leads to a sharp increase in the role of education in the reproduction of the productive powers of man" (Woodpeckers, 1995).

Under the human capital refers to a person's ability to work, his skill, knowledge, skills. Determine the level of human capital in every consumer of educational services available at each stage of its accumulation, ranging from pre-school education, to higher education, as well as postgraduate or advanced training. Every consumer of educational services and, accordingly, the copyright in the future human capital is always in proportion to the estimated benefits and costs. Gevorgyan noted that the expected benefits are a major factor in deciding the rate of return to education for society differs from the rate of return for the individual, as the costs and benefits of education for society and the individual are calculated differently (Woodpeckers, 1995).

We emphasize that ideological constants present in the human capital theory, showed a major impact on social and economic policy of many countries. This led to a change of attitude of society to invest in human. They saw the investments that promote the



production, and the long-term in nature, effect. This contributed to the theoretical justification for the activated form of education and training of professional workers in many countries. Certain categories of “human capital” are shown in Figure 1 (Gevorgyan, 2005).

Thus, we believe that when considering the category of “human capital” paramount need to rely on the opinion of Becker, who indicated in the study, saw the definition - the expected impact of the regulatory limit investments in investments in employee training, driven by the manager to a cost-effective strategic decisions. Rates of return are the regulator of the distribution of investments between various types and levels of education, including between the education system and the rest of the economy. Increasing the impact of borders indicate overinvestment, reduction - of underinvestment.

It costs on the production of human capital include: Direct costs, including tuition fees and other education expenses, change of residence and work; loss of earnings, which is an element of opportunity cost, since education, change of residence and the work associated with the loss of income; as well as moral damages, since education is a difficult and often unpleasant occupation, job search tires and exhausts the nervous system, and migration leads to the loss of old friends and acquaintances (Woodpeckers, 1995).

In assessing the expected benefits of investment in human capital for individuals, researchers isolated and short-term factors affecting the change in the dynamics of demand of people with consumption of educational services.

The long-term factors include:

1. A high level of wages for a future life;
2. A greater satisfaction from the work chosen for life (moral benefits);
3. The achievement of higher social status. It is assumed that in a modern society can rise from the bottom to the top, and it requires only the effort. There is a so-called “lifts” social mobility, one of which is education;

4. Broad access to more promising, interesting work;
5. Submissions parents about the future of children, which is a determining factor in the choice of life strategy as a result of the traditional system of family education in Russia;
6. The level of education and social status of the parents. Which affects the orientation of their children (the continuity of generations, the continuation of the profession of parents). For parents, the child’s higher education serves as proof of the viability of the family, the consistency of its material and social resources;
7. The choice of profession, to make friends or acquaintances;
8. The prestige of a particular type and level of education.

As a short-term factors are considered:

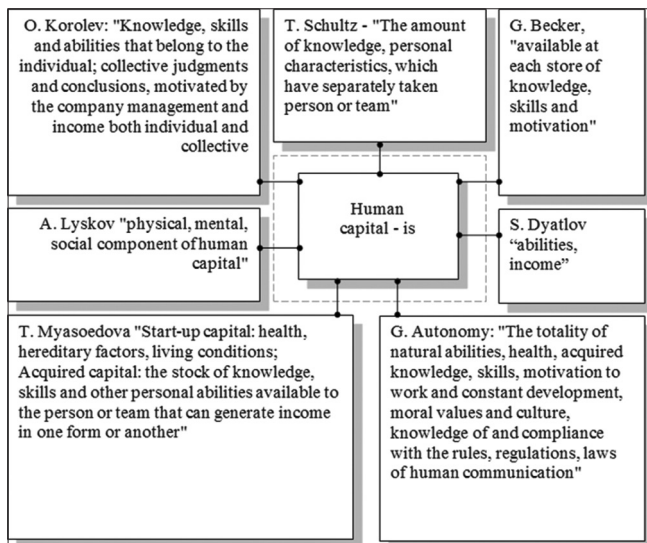
1. Appreciation of non-market activities and interests which are connected with education (learning process, communication with friends, school or student life);
2. The desire to go to any university young men to defer military service;
3. The desire of girls to go to school, due to the desire to marry well (Korolev, 2007).

According to the point of view of Mr. Winston’s education - this is a business, because in this area and made available at a specified price and purchased educational services necessary for the activity factors of production, however, differs significantly from the formation of business (Davydova, 2004). The scale of education as a separate sphere of socio-economic relations, and the value to society can be judged by the following figures: Worldwide trained 81 million students in higher and secondary special educational institutions, of which 40% are concentrated in the seven leading countries (USA, Germany, France, Great Britain, Italy, Canada) (Gordon, 2005).

In modern conditions in higher education can be clearly seen the following trends: Increasing the educational level of the population, the internationalization of higher education, the active development of government schools – “autonomy” of education, which, in turn, define the main vectors of state policy in the field of higher education in the countries of the Organization for Economic Co-operation and Development (OECD): Improving access to education, quality assurance of higher education, improving financial efficiency in the higher education sector (Vasiliev et al., 1999).

In countries such as Italy, Japan, France, the United States increase in productivity is achieved through the creation and dissemination of technological innovation, with the majority of these innovations is the result of fundamental and applied research. Higher educational and qualification level allows workers to use new technologies to adapt quickly to changes in the environment (Vakhshayn and Meshkov, 2005). Investments in human capital are paying off in the form of high-quality labor force, which has a high level of wages corresponding to the social status and greater prestigious post. In terms of economic benefits for the state education contributes to the expansion of demand, thus stimulating the growth of production of goods and services.

**Figure 1:** Classification category of “human capital”



Currently, the process of modernization and reform of education in virtually every country in the world. And, despite the differences in systems and approaches in this field, global trends in education have much in common, in particular:

- Changes in the objectives and functions, strengthens its innovative component prevails over the cultural characteristics of the developing countries;
- Improves the quality of education in line with the changing needs of society involves real implementation of new educational technologies, changing the whole system of training and retraining of highly qualified specialists;
- Focus on the principles of lifelong education is the introduction, as the new educational technologies, and finding new ways of presenting educational services tailored to the needs of school-leavers and students;
- Formation of new goals of the school, which in the twenty-first century. It becomes a social institution to meet the needs of society in vocational education (Dobrynin et al., 1993).

According to expert estimates, \$1 costs in the education system allows you to receive 3 to \$6 arrived. In Russia, an engineer come in 10 times less than the income generated than in the US. Ratio social cost of gross national product used for education, in our country amounts to only 2.7% compared with 6.1% in developed mills, 4% in developing and 5.7% - on the average in the world (Schetinina, 2001).

Leading positions in the global economic and political space occupied by countries that are leaders in the production of new knowledge, introduction of innovative technologies in industry and everyday life, based on developments in the field of knowledge-technology. Experience shows that educated people are more involved in social activities and to a lesser degree integrated into the criminal environment. The source of criminal activity, as a rule, are the social strata with very low incomes. It should also take into account the cultural aspects, the desire to assert positive values, attitudes and ethical principles (Woodpeckers, 1995). The social and economic benefits of education development are grouped in Table 1. (Woodpeckers, 1995).

As can be seen from Table 1, nation-wide benefits are determined by the growth of social productivity of labor, increasing the

country's competitiveness, increase scientific and technological capacity, expansion of export opportunities, and others. The increasing is currently competition in the provision of educational services of higher education that goes "... beyond the traditional conceptual, institutional and geographical boundaries," initiate the process of institutional diversification. There are virtual license (franchise), corporate universities, brokers in the field of education, as well as software vendors, publishers, entertainment companies, "seeking to capitalize on the potential of a new international market" HPE educational services (Burdenko, 2004; Shkurkin et al., 2015).

The increase in budgetary financing of educational services in the 1994-2004 biennium. In Russia it has resulted in higher professional education "institutional trap" provoked by the authorities and the management of the state and private business, and manifested in various forms, including:

- Increase in the number of state universities with the unjustified increase of the planned contingent of admission in 1995-2004, which led to a significant reduction in the quality of educational services and the disparities in the structure of training;
- The preservation of regional specialized universities that 60-70% overlap and areas of specialization of universities at upgrading the status of colleges, institutes, academies and reducing the status of universities (Kobersi et al., 2015);
- A relative reduction of public expenditure norms per student in 1992-1995, and then increase regulatory lag of public spending per student from the growth of the planned contingent in 1995-2004;
- The absence or reduction of public funding for equipment, materials, construction, repair, travel, etc.;
- Restrictions on admission to different specialties and fields (economics, law, management) in public high schools in the lobbying and the creation of privileges non-state institutions of higher education bodies of representative and executive authorities of the Russian Federation;
- "Unscrupulous franchise" state, permission to the artificial expansion of networks unmanned personnel and material and technical base of universities and branches, which led to decline in the quality of teaching, qualifications of graduates,

**Table 1: Potential benefits of education for the individual, the company and the state**

Benefits	Private	Entrepreneurial	Public
Economic	Higher wages, pension Better job opportunities Higher savings Personal and professional mobility Career prospects	Profit maximization Labour productivity growth Improving the quality of management, marketing The increase of competitiveness of production Using the cheap highly skilled workforce	Growth of social productivity of labor Growth of the country's competitiveness The growth of scientific and technical potential Expansion of export opportunities Reduction of transfer payments The increase in tax revenues The increase in aggregate demand and supply Accelerated development of new innovation technologies
Social	Improving the quality of life Improving working conditions Satisfaction with work A healthier lifestyle Implementation of creative abilities	Formation of a favorable social and psychological climate Favorable conditions for refresher training Quick adaptation to the environment, to the needs of the information economy	The formation of the foundations of civil society Improving the health of the nation Formation of the middle class Reducing the criminalization of society The development of democratic values, attitudes and cultural norms

the pursuit of a diploma instead of competence (Pankrukhin, 1995).

Today, the development of education systems depends on many factors, which primarily include:

- Mass pursuit of higher education;
- Knowledge societies: Regular updates and the addition of “basic” higher education due to the increased dynamics of the development of society and technology;
- Diversity of the needs of society and, accordingly, the requirements for the higher education system - the content, scope, forms and methods of learning;
- Liberalization of the administration form part of the state;
- Demographic decline, a change in the demographic structure of the population: An increase in the proportion of more adult and elderly population, compared with a share of the traditional college-age population and, as a consequence - the need to incorporate in educational policy needs of older age groups;
- Lack of public resources necessary to support the development of higher education;
- The development of innovative educational technologies;
- The globalization of social and economic processes and the associated internationalization of the education market (Formation of a society based on knowledge, 2003).

Factors of efficiency of the educational system can be grouped as follows: Availability, which means the desire of students to learn (nutrition, health, support for parents), the external environment of training (leader interested in educated workers, equal access to all levels of education, etc.); Software - Government support, monitoring the efficiency of resource use, the amount and distribution of public funds, performance assessment, satisfactory system of information, monitoring and feedback, etc.; quality - relevant programs, competence in the global economy, contribute to the social wealth, flexibility and adaptation to change, basic education and re-certification of teachers, salaries and professional development, results-based monitoring of quality assurance (Inshakov, 2005).

The key task of the Russian educational policy - to ensure a high quality of education on the basis of preserving its traditions and in line with current and future needs of the individual, society and state. Unfortunately, in Russia there is a disregard for the social component of the importance of education, the prevailing view of the concentration of the role of education as a “private matter of young people and their parents” (Pankrukhin, 1995). Education is seen by young people as a means of generating higher knowledge-assets. According to opinion polls, education, and according to the high school students and their parents, became the main and virtually the only option for the successful implementation of the labor market. There is a situation where the majority of students and their parents to education, no matter in what would be the university it was received and what specialty - education and a diploma of higher education - is, in their view, a kind of guarantee of competitiveness in the labor market.

Families interest in investing in education and willingness to bear the time spent behind the expected and confirmed by the survey

49 thousand. Households conducted Roskomstat. The question: How would you do with surplus funds? They answered that they were ready to send them to education, 4.2% of respondents, 30.2% - for the purchase of various material benefits. In addition, and in that part of the population that appreciates the benefits of education, have a desire to avoid the cost of these goals (Woodpeckers, 1995).

### 3. CONCLUSIONS

Currently, the sector is highly developed enough extra budgetary paid education and educational services market operates a large number of private educational institutions. The emergence of non-state educational institutions contributed to the development of competitive relations in the educational market: State universities were forced to activate efforts to improve its competitiveness, increase the mobility of educational services, training programs and the level of innovation capacity.

During the period in 1995-2006 the number of students in Russian universities has increased two and a half times and came close to 7 million people. On the 10<sup>th</sup> people there are 430 students, which is one of the highest rates in the world. According to the survey, 76% of students satisfied with their education and believe that they can work in any country (Gevorgyan, 2005). When planning in education must take into account increasing international mobility, a high proportion of the costs of higher education and increase its value. In this context, it becomes an important trade-off between quantity and quality of education (Inshakov, 2005).

Positioning education as a key factor in economic and social development, we note that, firstly, the increasing role of skilled labor increases the requirements for the level of education. Second, accelerate the aging process and the depreciation of qualification promotes self-education and expand the scope of additional vocational training. Third, in a rapidly developing knowledge economy, the role of intellectual labor and reduced the importance of physical labor. Fourth, change of occupation requires time, educated people spend less time searching for a new job.

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## **Model Breakthrough Technologies as a Tool to Support Import Substitution in the Pharmaceutical Industry**

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### **ABSTRACT**

In this article, the authors posed and solved one of the major issues that dramatically affect the definition of the strategy of advancing development in the industry - are there any in the segment of breakthrough technologies for the production of synthetic active pharmaceutical ingredients (APIs) highly efficient new technologies can on the one hand to provide the lowest operating costs at a stable and safe production of API good quality and in the required amount according to the Russian portfolio of promising drugs and on the other hand, what should be the role of government and development institutions to ensure full and accelerated implementation of these breakthrough technologies in advanced domestic production sites. The authors noted that in the Russian Federation introduced a model of innovative regional clusters (Pilot Innovative Territorial Clusters in Russia, 2013) is the most effective for achieving the scientific and technological cooperation on the development of breakthrough technologies.

**Keywords:** Active Pharmaceutical Ingredients, Governmental Support, Micro-Reactor Synthesis

**JEL Classifications:** L69, O10

### **1. INTRODUCTION**

A characteristic feature of the modern Russian pharmaceutical market is total (The Pharmaceutical Market in Russia, 2015), i.e. in all its sectors, import dependence. So the share of domestic drugs in total sales in the pharmaceutical market in value terms in 2014 did not exceed 23% in the commercial retail sector - 25%, in the hospital sector - 25%, in the sector of the beneficiary drug coverage - 13%, in the provision of local drug manufacturing active pharmaceutical ingredients (APIs) - 8%.

By the early 80s, the production of API in the Soviet Union was at a high level. The organizational structure and the level of production, specializing in the production of API, qualified personnel, and close contact with scientists and specialists in

the field of chemical synthesis allows to produce products that meet international standards. The domestic industry is almost completely ensured substances not only their plants for the production of drugs, but also exported ASF. Assortment ASF produced in the USSR, 429 items, including 350 - synthetic drugs 54 - antibiotics and 25 - vitamins. The basic amount of the ASF (380) are available at specialized chemical and pharmaceutical plants. In 1992, Russia produced 272 names API volume of 17.5 thousand (Federal Agency for Technical Regulation and Metrology, 2010). In the following decades, the country has lost the potential for release of AFS, only for the period from 1992 to 2008 API production volumes in Russia declined by more than 20 times. The reasons for this were (Federal Agency for Technical Regulation and Metrology, 2010):

- Reduction in or elimination of various types of raw materials and reagents required for the synthesis of many types of API
- Physical and moral deterioration of the equipment for the production of API
- Imperfection of technological processes and high energy production of API
- Exclusion from the register of ineffective drugs primarily because of their obsolescence or banned
- Non-competitiveness due to the high cost compared with API offered by foreign manufacturers
- Virtual absence of innovative groundwork in the development of the ASF
- Hasty and ill-considered privatization of the pharmaceutical industry.

## 2. MAIN PART

Intensive dismantling of a large part of production capacity for the ASF has meant that the plants for the production of drugs switched to API offered by foreign suppliers, giving preference to products of China and India as a cheaper and ASF from Europe as a modern and highly effective (Ananikov et al., 2014; Egorov, 2014). Their volume increased in proportion to the issue of drugs. The volume of imports of substances in 2014 amounted to 810 million dollars. In Russia imported about 11 thousand tonnes of API. In value terms, dominated by a substance manufactured in Europe (63%), in real terms a significant proportion of Chinese production of a substance (67%), in second place are the substance of India (11%).

Data on the geographical structure of import of ASF in Russia in 2014 are presented in Table 1.

From the standpoint of national security of the country in solving the problem of drug supply has become dependent on imports of API. In this regard, the import substitution in providing local pharmaceutical industry API is a fundamentally important task, without which it is impossible to overcome import dependence of the domestic pharmaceutical market (The Pharmaceutical Market in Russia, 2015). The international experience of countries that have overcome the dependence of local production by imports of ASF and became their major exporters (China and India), shows that the decisive role in this process was played by government support measures. By the early 90s of the 20<sup>th</sup> century in India and

**Table 1: The proportion of the importing countries in the API Russia 2014**

Country of origin	The share in value terms (US. %)	Country of origin	The proportion of in-kind volume (kg), %
Germany	21.3	China	66.7
China	21.2	India	11.0
France	19.1	Germany	9.1
India	10.1	France	3.4
Slovenia	9.4	Austria	1.7
Italy	6.6	United States	1.5
Spain	2.3	Serbia	1.1
Hungary	2.2	Switzerland	0.9
Switzerland	1.3	Spain	0.7
Ukraine	1.2	Italy	0.7

API: Active pharmaceutical ingredients

China formed a policy in the sphere of pharmacy which includes the steps of regulatory, administrative and economic support to local researchers and manufacturers (Federal Agency for Technical Regulation and Metrology, 2010).

The system of state support included: Subsidizing research programs in the field of pharmacy (up to 70% of their value), preferential loans, tax incentives for pharmaceutical manufacturers, deregulation of prices, to stimulate the search for foreign partners, the reduction of import duties on equipment for the pharmaceutical industry, export subsidies (Romanova et al., 2006). Particular attention was paid to staffing research and production in the field of pharmaceuticals. State support was provided through the system of educational grants for training researchers and managers in the field of pharmaceuticals. As the infrastructure support the development and production of new drugs created science and technology parks, business incubators, pharmaceutical clusters and specialized information systems (Pilot Innovative Territorial Clusters in Russia, 2013). Of particular note is the creation of special government agencies providing assistance to domestic producers for export of medicines, including assistance with the registration in other countries.

As for Russia, the results of the strengths, weaknesses, opportunities and threats - analysis of the key problems of the local production of API presented in Table 2.

Synthesis of API is the most high-tech stage production of drugs. Modern pharmaceuticals in Russia requires new approaches to system development of the industry, including the definition of priorities and directions of scientific and technological development, especially in the formation of the scientific and technological groundwork for the production of API (Ananikov et al., 2014). The current system of state support for the development of the pharmaceutical industry in Russia focused exclusively on products, which was caused by the need to import a wide pool of replacement drugs. At the grocery principle it carried out the first phase of the Federal Program PHARMA 2020, which allowed to achieve the objectives to create a significant number of specific import-substituting products. However, at the present time, the relevance of state support for the creation of pharmaceutical products decreased significantly. Firstly, due to the fact that virtually all promising drugs currently supported within the FTP PHARMA 2020 (Ministry of Industry and Trade of the Russian Federation [RF], 2009; Ministry of Industry and Trade of the RF, 2011; and Federal Agency for Technical Regulation and Metrology, 2010). secondly, because the health system is not stable long-term demand created by the state support of local producers of drugs that often leads to inefficiency of product support, which can then, for various reasons cannot buy the health care system (Evaluate Pharma, 2015).

One of the key problems of the modern pharmaceutical market is the need for long-term development of effective technologies for the synthesis of API (Ananikov et al., 2014; The Pharmaceutical Market in Russia, 2015). Based on the "List of critical technologies," approved by Decree of the President of the RF of July 07, 2011 No. 899, was allocated 21 critical importance of technology of API. At present, local producers have only 9 of them

**Table 2: The results of the analysis of the key problems of development of the market of APIs in Russia in the form of a matrix of the SWOT-analysis**

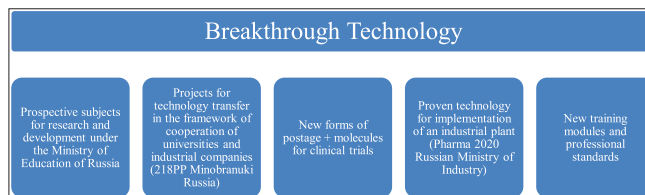
Description	Strengths sides			Weak sides	
	The development of the Russian pharmaceutical market	Macro-economic situation and foreign policy	Implementation of measures to support the pharmaceutical industry	Dependence on imports of substances in key positions	Insufficient base for the development of promising substances
Capabilities					
The development of local manufacturers of pharmaceutical substances	Growth of the market of pharmaceutical products is driving demand for components and substances	Possible restrictions on imports and the weakening of the national currency stimulates the development of local production of substances	Support within the framework of the Federal Program PHARMA 2020 local manufacturers of medicines stimulates demand for local substance (Ministry of Industry and Trade of the Russian Federation, 2009)		
Formation of scientific and technological backlog in the production of substances	Formation of research infrastructure within the federal program allows you to create conditions for the development of local products in the field of substances				
Import substitution	Increased demand for effective economic substance	Growth of the exchange rate increases the opportunities for import substitution, making imports economically viable	Stimulation of import substitution in the framework of public procurement		
Threats					
The complexity of the cost-effective production of substances				Possible competitiveness of domestic products in comparison with cheap Asian counterparts in the current economic model	The lack of effective large-scale production of substances
The complexity of the production of promising substances				The lack of technological capabilities to create high-tech production of substances	Insufficient number of domestic developed breakthrough technologies and research to implementation in production

API: Active pharmaceutical ingredients, SWOT: Strengths, weaknesses, opportunities and threats

are used by only three companies: NTFF Polisan, SC Geropharm, and IBC Generium. At the moment, the system is required to support the transition from creation of products to support the creation of centers of competence for critical technologies that will ensure the strategic development of the industry.

The transition to state support of advanced technologies allows you to create technology platforms, on the basis of which you can create entire classes of new products. Under a breakthrough technology meant new high-technology manufacturing pharmaceutical products with a valid patent protection in the synthesis method, the method of manufacture or hardware solution, introduced into production in the last 5 years or are in 2014 in a pilot stage of industrial production, combining high efficiency methods for the synthesis of energy efficiency, environmental safety and low operating costs. Model breakthrough technology is shown in Figure 1.

**Figure 1: Model breakthrough technology**



Breakthrough technologies, developed and implemented in the framework of clusters forming the cluster complex investment project in accordance with the requirements of the Ministry of Economic Development of Russia, and is also the subject for effective technology transfer within the core program of the Russian Ministry (Pilot Innovative Territorial Clusters in Russia, 2013). From this perspective, breakthrough technology is a tool

for innovation management, scientific and technical activities of the cluster. This technology should allow to increase the yield of the final product, increase the efficiency of synthesis and reaction under milder conditions to increase the selectivity of the synthesis and to minimize the number and quantity of side products that enable the regenerated catalyst and/or reagents for reuse and minimize the quantity and types of solvents used. Among the pharmaceutical products of breakthrough production technology will be present pharmaceutical substances from the list of strategically important drugs, the production of which must be provided on the territory of the RF (The Federal Government on July 6, 2010 N. p. 1141). Support breakthrough technology will allow system development in the section of scientific groundwork, relevant educational programs and industry support.

Data on consumption in Russia in 2014 for the production of API the most popular in the world of drugs are shown in Table 3.

The analysis shows that for the local market a substance best-selling drugs in monetary terms must be in sufficiently small quantities, so the data in Table 3 that the need for API for the production of 18 of the 28 most sought-after drugs does not exceed 1000 kg and for 16-100 kg. Pharmaceutical production in small volumes of highly efficient process requires the organization in terms of yield of the final product, its economy and the guarantee of good quality with a minimum volume of the party.

Thus, the most urgent problem of long-term development of the domestic pharmaceuticals is the creation of technologies for highly

technological and economic point of view, the synthesis of API in a small volume. It is crucial to the creation of a technological platform for the further development of a wide range of high-performance technologies.

In summary, you can highlight the key factors that determine the need for a new approach to the organization and support system development:

- According to the results of the first etapaFTsP PHARMA 2020 - acquisition of domestic manufacturers of available foreign technology production of pharmaceuticals and API (with the support of Industry and Trade of Russia).
- Identify the segment demanded technologies (high performance synthesis) that cannot be purchased by Russian producers in modern conditions because of the magnitude of investments required in the presence of technological risks and the inadequate level of competence.
- Increased activity of foreign players on the protection of intellectual property in the field of advanced technologies and molecules leads to a reduction of the field of a patent for the use of technology by domestic players.
- Rapid development of nano-medicine and new forms of delivery of drugs into the human body has led to the formation of a new dynamic market modern formulations targeted delivery of already known substances or combinations thereof (as projected consulting company Frost and Sullivan global market nano medicine in the period from 2012 to 2019 (Egorov, 2014; Kondratjev, 2011) should increase by more than two-fold). The absence of technologies for the manufacture of new dosage forms of the drug substance to the conveying direction of local manufacturers leads to a weakening of their position in the market. Thus, there is a need to support research aimed at accelerating the introduction of technologies drugs with new forms of delivery, given the rapid scaling technology and conduct of clinical and pre-clinical trials for new drugs.
- Determine the range of breakthrough technologies that have the possibility of accelerating the scaling and guaranteed implantation Russia provided their state support.
- There is a need in the local development of technological groundwork and educational programs, forming a set of competencies to ensure staffing introduction of breakthrough technologies API.

Decisions on state support breakthrough technology should be taken with the following characteristics thereof, formalized in the full dossier of technology:

- Scientific and technical level of technology
- The level of maturity of the technology as of 2014 and the forecast level of maturity in 2020
- Basic pharmaceutical products derived using the technology
- Manufacturing operations, analyzed duplicated in other technologies
- Experience in the implementation of technology, particularly scaling and commercial introduction
- The current patent situation and prospects of patenting
- Analysis of the current in the Russian Scientific and Technological Reserve

**Table 3: Volumes of consumption of ASF in Russia for the production of the most popular drugs in value terms in 2014**

Medicament	API mass, kg
Fluticasone	16.0
Salmeterol	16.0
Sitagliptin	243.2
Rosuvastatin	1238.0
Pregabalin	12,507.0
Lenalidomide	1.3
Imatinib	1062.6
Aripiprazole	14.3
Esomeprazole	384.6
Tiotropium bromide	0.3
Glatiramer acetate	91.6
Budesonide	10.3
Formoterol	10.2
Emtricitabine	63.5
Tenofovir disoproxil	62
Rivaroxaban	186.2
Celecoxib	1523.7
Bortezomib	0.5
Pemetrexed	4.4
Ezetimibe	14.0
Telmisartan	573.2
Clopidogrel	7435.9
Fingolimod	0.1
Atorvastatin	6212.2
Valsartan	12,740.9
Tadalafil	50.7
Simeprevir	1.0
Abiraterone	69.0

API: Active pharmaceutical ingredients



- The status of the level of maturity of technologies as of 2014 in Russia
- Scenario level of maturity status of technologies in Russia in 2020 (Ministry of Industry and Trade of the RF, 2009; Ministry of Industry and Trade of the RF, 2011)
- Analysis of possible ways to introduce breakthrough technologies for the production of ASF in Russia, including analysis of existing technological platforms for the introduction of advanced technologies of production
- Information on possible ways of using the centers of collective use of scientific equipment in the design and implementation.

Determination of the list of advanced technologies allows you to create a program of support and development that, in turn, creates a platform for further development of a pool of new drugs. It is obvious that the development and implementation of advanced technologies is only possible with the effective cooperation of many subjects of the pharmaceutical market, assuming an accurate understanding of the competence of each of the participants for the intensive development of research and development work to establish effective technology to local manufacturers (The Pharmaceutical Market in Russia, 2015).

In terms of organizational development model is innovative pharmaceutical cluster is the most effective for achieving the scientific and technological cooperation on the development of breakthrough technologies. This cluster is the most effective in terms of ensuring the competitiveness of its member companies by the synergistic effect. In 2012, as a result of competition of Russian Ministry of Economic Development was generally agreed a draft list of innovative clusters, which included a pilot program of 25 regional clusters. Of the 25 selected clusters 7 ("Pharmaceuticals, medical technology and information technology Tomsk region," "Innovation cluster of information and biopharmaceutical technologies of the Novosibirsk Region," "Altai biopharmaceutical cluster," "cluster" Fiztech XXI) "(Dolgoprudny, Khimki)." "The cluster of medical, pharmaceutical, radiation technology of St. Petersburg," "Cluster pharmaceutical, biotechnology and biomedicine (Obninsk)," "Biotechnology innovation regional clusters 'Pushchino')") relate to the pharmaceutical industry that characterizes the high level of clustering the most effective modern pharmaceutical production. As part of the support programs it is expedient to concentrate resources in the direction of increasing the efficiency of production of API within regional clusters of innovation by forming a cluster and inter-cluster-building programs and the introduction of advanced technologies (Egorov, 2014; Frost and Sullivan, 2014; Pilot Innovative Territorial Clusters in Russia, 2013).

In the framework we have set ourselves a priority determination of high-performance new technology production of synthetic ASF capable of providing low operating costs at a stable and safe production of API of good quality and in the required RF amount according to the portfolio of promising drugs, and defining the role of the state and its development institutions to ensure full and accelerated implementation of these breakthrough technologies in advanced domestic production

sites has been compiled dossiers on technological "technology intensive micro-reactor synthesis of API (organic synthesis) and key intermediates." If this we did a comprehensive inspection technology based on a critical analysis of the novelty of the method, the results of the introduction of advanced technology overseas production sites, the level of maturity of the technology, its ability to foster scaling and definition of the required level of scientific and technical training for its development and implementation. It should be noted that the accelerated development of innovative methods and technologies for the continuous micro reactor synthesis allows today successfully design and implement production facilities and technologies to dramatically reduce operational cost of production due to the intensification of organic synthesis, the availability of opportunities for synthesis at a "soft conditions." High-yield, safe realization of previously impossible syntheses and complete process automation. This contributes to an increased mass and heat transfer rate, isothermal holding all classes of exothermic and endothermic reactions, increased product yield through improved regio- and stereo selectivity and intensification of the synthesis reaction leading to the reduction in the number and quantity of side products. Found technological solutions represent a safe, fully controlled use of operations with higher system pressure and high temperatures to achieve maximum reaction rate and higher productivity. The consistent quality of the target product provides increased reliability, consistency, controllability and stability inherent in the steady technological regime in a continuous process and provides accurate residence time of the reaction mixture in the reactor, its controlled distribution, the ability to accurately reproduce all the conditions for all processes in all coordinates, guaranteeing consistent quality the desired product without the accumulation of toxic and reactive intermediates (Baxendale et al., 2015).

Additional factors that influenced the choice of this technology in the first leading sites in the European Union, was the decrease in capital expenditures producer API due to the possibility to reduce the size of the required space, and reducing the time of introduction of technology in their scaling up to an industrial level. For local domestic manufacturer important factors will be simpler, well-defined way of scaling from laboratory to production facilities and production capacity API for its own product portfolio based on the needs of the domestic market coverage and share of PL products in this market.

The main production facilities, has successfully implemented industrial or semi-industrial production of API for this technology are:

1. LonzaAG, the company's plant in the city of Visp, Switzerland
2. DSM, the company's plant in the city of DSM Fine Chemicals Austria NfG GmbH Linz, Austria
3. Sigma-Aldrich, the company's plant in the town of Buchs, Switzerland.

Core competencies of advanced innovative platform companies are manufacturing LonzaAG ASF and their intermediates, the development of methods and technologies for the synthesis and development of the ASF and the industrial mass production of

their own micro-reactor equipment. Competence areas of DSM and Sigma-Aldrich more modest - they are concentrated in the production of API and their intermediates, and the development of methods and technologies for the synthesis of API. These sites buy serial (typical) equipment or order the individual types of micro-reactor systems at their core developers.

Based on the critical analysis and execution of the dossier, we have systemized the main conclusions regarding the applicability of this breakthrough technology for highly efficient local production of ASF in Russia and noted the main trends in this technology market in the next 5 years.

### 3. CONCLUSIONS

Intensive micro-reactor synthesis of API and key intermediates is a breakthrough multi-disciplinary area, and requires a systematic approach on the part of the company's management to coordinate the chemists, engineers, designers benchmarking of production processes, equipment manufacturers and engineering companies, regulators and inspectors of appropriate practices by state of control over production. Technological difficulties of transition to a micro reactor technology and continuous synthesis were successfully overcome in the advanced markets in the last 4 years on a semi-industrial pilot and the level of performance, and are being introduced today in the semi-industrial/commercial production of API (Baxendale et al., 2015). When you create a synthesis scheme API opened new possibilities for a combination of modern scientific approaches to the synthesis of enantiomerically pure compounds with the micro reactor technology in the context of full and safe methods of controlling the stereochemistry of reactions in the industrial production of API (Egorov, 2014). There is every reason to believe that an intensive micro-reactor synthesis of API is a "platform" technology, allowing innovative approach to take advantage of the existing backlog in Russia and quickly put into production the new AFS portfolio as cost-effectively at local production. At the same time we will be able to rely on highly qualified specialists, determine the development of the national scientific school of organic synthesis, and working in Russia on the development of methods of "realization of reactions with atomic precision."

The main expected technological trend in this market in the next 5 years is a more profound market diversification:

- For the production of micro reactor equipment for the API
- For services in the field of technology transfer and the intensification of the synthesis of the continuous synthesis of new methods of continuous micro reactor synthesis of API and key intermediates, asymmetric catalysis mikror eaktornomu (Baxendale et al., 2015)
- Engineering analytical equipment, validation of methods and rules of industrial complexes.

In these new market segments is forecasted substantial volume of orders from the pharmaceutical companies planning to invest in micro-reactor methods of synthesis of API. On the appeal of these niches much of the activity of companies actively positioning themselves on the latest exhibitions and conferences,

among which there are young companies that stand out from the research laboratories of Western technological universities (Basel, Kaiserslautern, Karlsruhe, Zurich, Eindhoven).

Thus, systematizing the main conclusions drawn from the done research and arguments in response to our question, we would like to emphasize - for highly efficient local production of synthetic API is necessary to introduce the technology of intensive continuous micro-reactor manufacturing API and key intermediates, as today in Russia for their effective and rapid development of all the prerequisites. The main reserve - National school of modern organic synthesis and high schools, have good connections with the domestic pharmaceutical industry. This is a reserve in the event of a real basis for the effective promotion of continuous laboratory scale synthesis for the industrial production level. For our domestic pharmaceutical science great opportunities, allowing 100% use a school of modern organic synthesis represented by the advanced RAS institutes and universities (Egorov, 2014). In Russia, where the competent positioning of competence centers for highly efficient local production AFSmy be able to develop their own methods of synthesis marketable ASF, as well as within the projected staffing requirements ahead to organize the training of young specialists at the centers and training of production personnel at industrial sites customer technologies (Baxendale et al., 2015).

The development of breakthrough technologies API creates new challenges for the development of the education system since the introduction and use of these technologies requires appropriate competence. In addition, the steady production standards in many cases, becomes an additional barrier, which is quite difficult to overcome. The key question becomes how can people with the skills they possess, and the culture of production to which they are accustomed, to turn cutting-edge technology of synthesis of innovative scientific and technical projects in the established method for the production of high-quality API. Today, at this stage of understanding the problem, specialized education must actively engage in the process of implementing an innovative and breakthrough technologies must be prepared targeted interdisciplinary educational programs and modules aimed at improving the skills of staff. This approach is advisable to implement within the framework of cluster cooperation of educational centers and industrial enterprises. As for higher education, the modern educational standards allow them to enter the variable part special subjects and educational modules for breakthrough technologies API forming competence, self-defined educational institutions. Definition of a set of competencies of graduates formed, focused on work in the field of advanced technologies API should be discussed and agreed with the representatives of industry self-regulatory organizations of pharmaceutical clusters and the Association of Russian Pharmaceutical Manufacturers. In this context, it may be proposed to discuss the following set of competencies that need to be created for the accelerated introduction of advanced technologies API involving acquiring knowledge and skills to:

- Effective scaling of laboratory and pilot methods for continuous synthesis and design of equipment under the order

- Optimal micro reactor design synthesis routes and reliable transfer of manufacturing processes
- Understanding of the extent of time and distance by which supported a more fundamental understanding of the scale and sensitivity of equipment used
- Support the implementation of continuous production, requiring effective work in multi-disciplinary and multi-functional development teams intensive and continuous process (Baxendale et al., 2015)
- Developing methods of analysis and analytical techniques that are required for the design and control of micro reactor process.

To generate it, is not an exhaustive set of competencies necessary to strengthen the engineering training and knowledge on basic and applied chemistry to ensure the quality and reliability of API production.

At the second level of higher education, a master's degree, industry universities should provide specialized training in master's programs directly aimed at the development of breakthrough technologies API, and adjust the subject of dissertations and doctoral graduate, focused its research on fundamental problems of development of breakthrough technologies API.

Given that the process of preparing the relevant staff through postgraduate, master's, and especially the baccalaureate, long-term process, the most expeditious way is the implementation of the system of additional vocational training programs and retraining of specialists for the transition to breakthrough manufacturing technology ASF, allowing to undertake professional activities immediately after graduating with a relatively short duration of between 3 months and 1 year.

To stimulate demand for the development of educational programs on innovative methods of development and production of API should be linked to provide state support to domestic producers of API with the following obligations of recipients:

- Direction applicants for special admission to specialized educational institutions, implementing educational programs towards the preparation related to the development and production of API
- Providing opportunities for practical training of students enrolled in these areas
- The direction of specialists for training and retraining oriented production technology breakthrough API, the system of additional vocational training of specialized universities.

The real innovation will only take place when the projects implementation of advanced technologies, the effort required on the part of education, research, development and production of pharmaceutical companies will together aim to develop new methods for the production of API. With the implementation of the cluster approach and educational center of the cluster ensures the development and launch of individual educational

programs designed for implementation of the specific objectives of the cluster project. In the cluster, in this case generated program on the development of advanced educational modules aimed at training a sufficient number of experts on the subject. It is necessary to expect that in the format of the activities of scientific and technical council of the "Pharmacy of the Future" in the framework of the technological platform "Medicine of the Future" in the light of the implementation of the program of development of pharmaceutical science and pharmaceutical education, including support for their educational programs and initiatives, both from the Ministry of Education of Russia, and from side leading pharmaceutical companies, we will see in the near future development of breakthrough technologies, including operating mechanism as a public and private funding of training programs, which in turn will lead to the creation and implementation of their own development in accordance with the road map measures necessary for the introduction of advanced technologies of local production of API in Russia.

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## **Factors and Material Conditions for Space-Intensive Economic Development of Region**

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### **ABSTRACT**

The strategic goal of Russia - 2020 is to change the economic model of the country with the raw material for innovation, improving the efficiency of government and a sharp improvement in the quality of life of Russians. New target settings defined in the strategy, focus on quality rather than quantitative results of forcing a new look at content management at all hierarchical levels: Federal, regional, territorial. In economic studies last 30-40 years there has been increasing interest in the economic side of the speakers at the regional level. This reflects the objective processes of globalization of the economy, which began to play a special role of spatial and economic "point" of the industrial and innovative development. In turn, the existence and the functioning of such "points" in the national economy in a certain way affect the inter-regional mobility of factors of production, which has a direct impact on regional economic performance, in both quantitative and qualitative aspects.

**Keywords:** Regional Economics, Economic Space, Production, Development

**JEL Classifications:** C40, P25

### **1. INTRODUCTION**

The development process of internationalization and globalization of economic activity has given rise to a new scientific field of regional economics - spatial approach. Within the spatial approach, there are different points of view to the economic area: System-structure, economic, legal and geopolitical.

We believe that certain points of view in the study of economic space in the region more fully exhibit the characteristics of the reproduction process at the regional level, which as a self-organizing, complex, dynamic system evolves in the course of interaction with the environment.

For further investigation under this section, based on the conclusions of Gavrilov (2002), highlight the characteristics, causing the reproductive process of the region separately: The number of population and the size of the territory (geographic

location), the specificity of the prevailing activities (production and functional features); the nature of construction sites of industrial activity, housing and services (especially urban); rules of communication, behavior (especially sociological).

Kerefov (2011) to study the characteristics of intensive type of the reproduction process in the region, offers a methodology for the identification of the dominant trends in the regional reproductive trends on the basis of the production function and comparing the different content of socio-economic indicators, expressed in disparate units (Kerefov, 2011).

You cannot ignore the fact that the region (including its economic space) does not have the ability to eliminate the adverse conditions, resulting in the possibility of reducing the effectiveness of the economic space in the region and the emergence of the need for additional budget funds, especially funds for the formation and development facilities improve social services people in

the region and its infrastructure. In this regard, the management of infrastructure in the region, the sphere of the normal life of people in the region included the direction to improve the use of infrastructure. This implies, for example, decisions on the formation of a unified property complexes, to have further investment attractiveness.

## 2. MAIN PART

The ability of the economy to growth depends on several factors, by which is meant the phenomena and processes that determine the pace and scale of long-term increase in real output, the possibility of improving the efficiency and quality of growth. By way of impact on economic growth distinguish direct and indirect factors. Direct considered the factors that make the growth of mobility. This group includes the supply factors:

- The quantity and quality of labor resources
- Quantity and quality of natural resources
- The volume of fixed capital
- The technology and organization of production
- Level of development of entrepreneurial skills in the community.

Indirect factors - these are the conditions that would allow the existing society opportunities for economic growth. Such conditions are factors of supply and distribution:

- Decrease in the degree of monopolization of the market
- Tax climate in the economy
- Efficient credit and banking system
- The growth of consumer, investment and government spending
- Expansion of exports
- Possibility of redistribution of productive resources in the economy
- The current system of income distribution.

The impact of these factors on the economy determines the type of economic growth, by which is meant the impact on economic growth of quantitative and qualitative variables. Economic science distinguishes two types of economic growth, first formulated by Marx: Extensive and intensive. They differ in the ratio of results and the factors of production.

Factors of production - is the resources used for the production of economic goods, including:

- Natural resources - Land, water, air, raw materials used for processing
- Work - A mental and physical abilities of the person required to produce
- Capital - Buildings, machines, machinery, semi-finished products and so on. N., is created by human labor.

In recent literature adds another factor of production - A business that brings together all the factors of production in one enterprise.

The main factors contributing to the emergence of the region as an independent economic entity: The presence of special (regional) interest; regionalization of the economy and as a

consequence - The new role of the regions in the organization of economic life; federal form of government, which defines the powers of the subject and the degree of centralization and decentralization of public administration; infrastructure complex in the region, which is the material basis of its economic independence; a system of institutions, ensuring the functioning of regions as economic entities, among which occupies a special place regional economic policy pursued by the federal and regional authorities (Kuryanova, 2008).

Thus, based on our analysis clarified the definition of cross-border region and identified the following preconditions of its formation (Forelock, 2012):

- The impact of globalization and scientific and technical progress
- Relative geographic proximity of the merging of regions
- The ability to overcome the limitations of own resources caused by the administrative-territorial division, institutional, historical, natural and geographic or other conditions through the exchange and cooperative ties with neighboring regions
- Availability of sustainable organizational and economic relations with neighboring entities in the form of migration flows of labor and capital
- The possibility of adapting the institutional environment.

Author Chub based on a study of different approaches to the evaluation of social development group identifies the factors that influence the nature of the spatial and economic development of the region:

1. Economic factors: Technology and organization of production; entrepreneurial activity; development of infrastructure industries; energy efficiency; investment potential; the state budget; the quantity and quality of natural resources.
2. Social factors: Population; skilled and motivated; work force; the level and quality of life; public health; development of social infrastructure.
3. Institutional factors: Completeness of the regulatory framework; the effectiveness of the enforcement of coercion and control; the mentality of the population; organization of the system of controls; the level of development of communication channels.
4. Innovative factors: Scientific and technical potential; research activities; number of established innovations; the amount borrowed innovations; the number of used innovation
5. Globalization factors: External economic relations; the activities of transnational corporations and banks; the presence of foreign retailers; participation in the World Trade Organization.

The preservation and strengthening of Russia as a federal state with a single economic space is inextricably linked with the overcoming of the existing negative trends of territorial development, systemic properties and characteristics of the economic space, their regional characteristics in order to achieve common strategic objectives of socio-economic development of the country and its regions.

The following properties of economic space are (Shchetinina, 2006; Muhammad et al., 2015):

- Properties of a fractal, when one economic area, as an independent part of “embedded” in another, and at the same time, both constitute a single integrity;
- Heterogeneity of property arising on the one hand, the non-linearity of the processes occurring in the economic area, the other - of the relationship between the processes themselves. Different levels of economic synchronization of time in the main, auxiliary and service processes, different levels of competitiveness of business entities involved in these processes, as well as their individual perception of the institutional environment determine the heterogeneity of economic space, expressed in varying degrees of concentration
- Self-organizing property, which refers to the ability of the system without specific influence from the outside to take some spatial structure. This property is expressed in the ability of economic space to a certain extent, offset the effects of adverse external and internal processes, which increases the stability of the economic activities of economic entities and the level of organization of economic processes.

By the universal properties of economic space should be included:

- Objectivity of its existence and independence of the human mind (but not from the activity)
- Dependence on the structural relations and processes of development in the economic, industrial and economic interactions
- The unity of continuity and discontinuity in the level and structure of economic space.

By the universal properties of the economic area should also include the possibility of adding this element to each of the next item or any possibility of reducing the number of elements, the possibility of changing the nature of social and economic interactions, the mutual arrangement of the elements of economic space, their number and quality attributes.

Economic space are not inherent connectedness and continuity, usually manifested in a physical space in the nature of the bodies moving from point to point, however, is inherent in the spread of the impact of connectivity through various institutions and field in the form of short-range transmission of energy.

Economic space characterized by relative continuity, manifested in the separate existence of material objects and systems, actors and factors, the existence of structural diversity of the level of interaction that varies depending on the density change of socio-economic relations.

A common feature of economic space, to detect identification at all structural levels (nano, HOMO, micro, meso, macro, sub, mega) is three-dimensional (3D), which is organically related to the structural and economic systems, as well as the economic and social networks and their interdependence. All economic processes and interactions are implemented only in 3D space. Economic space is always 3D and describes the length and structure of the economic process, the coexistence and interaction of different economic actors and elements of the economic system.

It is necessary to distinguish between metric (expressed particular communication of spatial elements, procedures and quantitative principles of these bonds) and topological (connectedness, multilevel, etc.) properties of the economic space.

The main characteristics of the economic space are:

- Density (population, gross regional product, the concentration of natural resources, fixed assets, etc. per unit area);
- Accommodation (indicators of uniformity, differentiation, concentration, distribution of population and economic activity, including the existence of economic development and undeveloped areas);
- Connectivity (the intensity of economic relations between the parts and the elements of space, the terms of the mobility of goods, services, capital and labor resources, determined by the development of transport and communication networks).

Taking into account the social orientation of the market economy, particularly important component of the social characteristics of the economic environment.

Equally important for spatial and economic development of the region is small and medium businesses. Mironov identified factors of small and medium businesses formation at the level of the regional economic system as:

- Access to the market and the competitive environment - The factor that determines the boundaries for the marketing of products, and the relationship of competition between enterprises
- Human capital and skills - And access to the professional level of personnel for small and medium businesses, the availability of special programs for the development of business, increasing business skills and on this basis - to minimize risks
- Financial resources - The availability of finance at all stages of development of the enterprise
- Innovation and infrastructure development - The presence of business incubators, technology parks, industrial and science parks
- Administrative optimization - General and sectoral administrative boundaries
- Delivery system - available set of specialized services, the rules and conditions of interaction of small and large companies and among themselves (Gerasimov et al., 2015; Mironov, 2011; James, 2015).

Korchagin on the basis of the analysis of external conditions and factors affecting the social, economic and environmental development of the regions, allowing them to structure the three levels: International (global); national (Russian); regional (largest federal district) (Korchagin, 2009).

As part of the trend of the global world community, the key development benchmarks (including Russia and its regions) should be: The formation and development of an innovative model of economic growth; improvement of the social and environmental spheres; improving the demographic situation.

According to Korchagin in the forecast period, the economic development of Russian territories will be determined by the following main factors influence the spatial and economic development:

- Increasing dependence of economic growth on investment (investment policy, investment attraction)
- The intensification of innovation and investment components of growth
- Reduction in the number of working age population coupled with increasing scarcity of highly qualified personnel working specialties
- Increasing competition in the internal and external markets.

The priority directions of spatial and economic development of the territory of a single-product economies Korchagin defines: Innovation-innovative activities; chemical products and new materials; transport logistics and communications; scientific and educational activities (Korchagin, 2007).

Similar view Borukaev, removing small and medium business backbone role in the consolidation of resources and the spatial and economic development of the region, elaborating on the formation of the inherent properties of localized activity in the region, to create a market separate territorial unit and ensuring the balance of demand and supply in the North Caucasus region (Borukaev, 2011).

The transformation of the region into the real subject of the federation is its emergence as a subject of development. Under the region as the subject of development is understood as sub-federal entities performing social and economic function, developed and implemented the strategic goals of its development in domestic and environmental (national and global) environment through the integration of the objectives of stakeholders, as well as the reproductive cycles of the region taking into account the existing powers and resources. Analysis of the region as a subject of development involves consideration of its economic nature (functions); determinants of economic subjectivity of the region; products of its activities. Analysis of the factors determining the growth of subjectivity in the region shows that they are largely exogenous, external to the region. These include above all the globalization of the economy, the development of regionalism, the formation of Russian federalism. The main products of activities in the region as a subject of development are:

1. The competitiveness of the region and its sub-systems (social, economic, administrative, environmental, infrastructural, institutional, security);
2. Competitive public goods;
3. Competitive resources and potentials of the region.

The institutional design of product activity in the region as a subject of development is carried out in the form of strategic objectives, strategies, and other institutions (Lapa, 2009; Yeung and Coe, 2015).

The globalization of the world economy and the openness of the Russian economy leads to the fact that even at the local (regional) markets, there is a global competition. Thus, the need to build a

competitive regional economy in the conditions of globalization and integration determines the dominant strategic approach to the management of socio-economic development of the region.

Composite index spatial and economic developments are the indicators of competitiveness, which can be divided into main and auxiliary. For the main indicators of Popov (2009) are those that best identifies a particular element of the productive forces and the property of its use. About sub-indicators, according to Popov, you can talk about how to use elements of the productive forces that determine the competitiveness of the spatial and economic development of the region.

In general, the consideration of territorial competitiveness determines the existence of the expenditure in an unchanged manner a limited number of factors that characterize the subjective competitive leadership and a point in the competition. The author notes that the number of subsidiary indicators of competitiveness of the regions should be given full information required, mainly for the assessment, but the number of sub-indicators of the competitiveness of the spatial and economic development of the region cannot exceed the permissible limits. In most cases the analysis in order to assess the competitiveness of the regions enough to apply the value of indicators in the range from 0 to 1. The set of indicators of regional competitiveness (spatial and economic development), organized on competitive principles, as well as the amount of a share of the means of production and population separately given region (Popov, 2008) are presented in Table 1.

The structure of the indicators of competitiveness of the region is a description of the reality of it with the appropriate properties and relations in the conditional system. Determining factors of competitiveness of the region and its properties involves various details and explanations. The main of this system is to maintain the integrity contained in those links, which are formed and developed between some elements of the productive forces in the territory of the region.

Magomedov said that the spatial and economic development is based on the use of the following basic steps:

1. Monitoring the needs of the population in the region, the state and development of markets formed, the spheres of interest of regional authorities and businesses
2. The establishment and maintenance of conditions for optimum adaptation of the structure of the regional economy to internal and external factors
3. The active implementation of regional interest
4. Enhancing the innovation process through the establishment and implementation of the relevant regional innovation policy (Magomedov, 2009).

In the development directions of change within a certain area is taken into account the specifics of a given region, which is due, in our opinion, the following circumstances:

1. Economic independence of the region cannot be absolute, as the regional economy, as a subsystem of the economy, cannot be regarded as an isolated part of it. This is evidenced by the



**Table 1: Indicators of economic development (Popov, 2008)**

Performance		
Economic potential of the region	Regional efficiency	Competitive advantages
The economically active population, thousands persons	Production of gross regional product per unit of the economically active population, thousands rubles/person	The cost of fixed assets per unit of the economically active population, thousands rubles
Average number of employees by economic activities, thousands persons	Production of gross added value generated by economic activity, by one of the employed population, thousands rubles/person	Coefficient of life of fixed assets in the region, %
The level of depreciation of fixed assets by industry sector, million rubles	Production of gross regional product in relation to the value of fixed assets depreciation, rubles	Volume indices of investment in fixed assets
The area of agricultural land, thousands Ha	Production of gross value added in agriculture the value of fixed assets, rubles	The level of officially registered workers in agriculture, %
Expenses for research and technological development, million rubles	The average monthly nominal wage per employee in the sphere of education and science, rubles	The share of employed in enterprises of scientific research in the sphere of the total population, %

fact that the state budget financing remains the main source of financial resources in the economy in most regions.

- At the level of development of the region are strongly influenced by climatic factors (the presence of minerals and other natural resources, favorable geographic environment, etc.) and environmental conditions.
- Most of the regions are “highly specialized,” i.e., focused on those or other spheres of the national economy (in this regard, traditionally allocated industrial regions, agricultural, recreational, etc.).

The authors believe that regional policy is based on the development of the regional economy, the shift of the center of gravity of total territorial issues at the level of the region from the perspective of the effective development of certain areas without disturbing the single economic space of the state.

Dzhereshtieva defining the region as a complex socio-economic system allocates the principles of its effective spatial and economic development:

- Integrative - A new quality of spatial and economic development (goal: Combining the interaction of all components and systems)
- Emergence - The consistency of the target functions of some of the structural elements and subsystems with the objective function of the base system
- Synergistically - Implementation of activities in the reversed multiplication result
- Unity - The existence of socio-economic systems as the administrative, functional and coherent formations, with any element of the system implements specific functions
- The optimality of centralization - The balance between the principles of decentralization and centralization of management
- Feedback - A system of information flows between object and subject of management
- Interchangeability - Manifested in the ability of subsystems and elements of the system have a “reciprocity” to the device
- Adaptability (optional competitiveness) is a case where the region adapts to changes in internal and external circumstances

without impairing the performance and stability of its operation

- Flexibility - Flexible building system back into balance after the event modifications
- Security - The presence of the minimum stability of the system to ensure its viability (Dzhereshtieva, 2010).

We agree with Polyakova, who in his study identifies performance (Polyakova, 2011) indicators and appropriate spatial and economic development of the region, including: The well-being of the population, the quality of working life, the quality of social services, life safety. Note that these figures can be regarded as factors of spatial and economic development of the region, allowing it to stand out from the other regions and to join (in the case of positive and stable parameters/factors) to other regions and territories.

### 3. CONCLUSIONS

- Having examined the various definitions of “region” in modern economic science, we can say that the views of researchers in understanding the versatile search. However, Alaev, Nekrasov, Dobrynin et al. in their complex research argue that the region - it is localized, a large area of the country, while the subject of the Russian Federation, characterized by the unity of the qualitative and quantitative reproduction process. Foreign authors James and John, Harskhorn and others. Be sure to add the definition of “region” characteristic of the political system, administrative regulation and uniformity of the socio-economic structure of the selected area.
- Equally important in the thesis plays a category of “economic space” in relation to the category of “region.” The study determined that the “economic space” in the works of previous authors considered three approaches: Territorial (Granberg; Leizerovich; Kostinsky et al.) approach; resource approach (Chekmarev; Peftiev; Krukovski et al.); information approach (Ivanov; Syroezhin; Parinov et al.).
- The classic understanding of the factors of production are: Labor, land and capital. It may be noted that the classical undergone minor changes largely transformation. Modern

scholars have identified the economic, social, institutional, innovation, globalization factors of spatial and economic development. Economic space has the following properties: Fractal, heterogeneity, and self-organization. The main features are the economic space density, location and connectivity elements of the space.

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# **International Experience of Ensuring the Competitiveness of Regional Economies with Instrumental Functions of the Cluster Approach**

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## **ABSTRACT**

As the results of the study, the clusters are the driving force for increasing exports and attracting foreign investment. Because of this, the authors note that you need to pay special attention to the need for enhanced clustering spatially localized economies. Holding company has a special role in shaping the country's budget, therefore, exploring new forms of economic relations generated by the cluster, we consider it necessary to consider the formation of the holding clusters that combine the features of the holding company as a conglomerate of different entities and cluster technologies developed on the basis of flow knowledge from one company to another. Through the creation of an extensive system of participation in a cluster ensures the stability of the whole group, because in this case significantly reduced business risks.

**Keywords:** Region, Cluster, Competitiveness, State, Regional Institutions

**JEL Classifications:** F00, P25

## **1. INTRODUCTION**

The high level of competitiveness is increasingly dependent not on production factors, and the ability of businesses to create and apply new knowledge and technology. Using the cluster approach to enterprise development promotes social and economic development of regional economic systems by optimizing costs by combining a variety of enterprises and improve the quality and competitiveness of the manufacturing process. At the same time, effective management is achieved through the economic effect of the cluster, through the exchange of market information, technology, modifications motivations and quality of human capital, i.e. due to the flow of knowledge, providing innovative development of enterprises.

Implementing the ideas of creating spatially localized economic systems of cluster type and other forms of innovative activities hampered by the lack of adaptation of organizational and economic

instruments of its management. The principles of the organization and the formation of enterprises laid a cluster type of knowledge - is a key resource of the global economy. There are no common criteria for determining the level of knowledge for each action (business process), reflect only the knowledge of the specific results of the company in a given area, which are the result of both in-house mechanisms and the result of spillover of knowledge. Organizational knowledge is developed based on the knowledge of every employee of the enterprise. High level of knowledge at the appropriate management level should lead to the effective functioning of the enterprise results. Knowledge must form the foundation for the further development of the competitive advantages of the cluster.

## **2. THE MAIN PART**

Considering the principles of the cluster, it should be noted, that its internal and external environment can be viewed as a

prototype of the institutional landscape of the process layer and the future of the regional innovation system. Thus, in the implementation of an innovative project formed the core technology cluster, which includes the organization of protection of knowledge generation. To cluster could play a catalytic role in the development of innovative territory or the sector and has a high level of institutional density, it is necessary to lay the appropriate priority in the organization of the cluster. In the process of the successful organization of the cluster of great importance has its internal environment. However, at the stage of stable operation of a separate role for cluster analysis of environmental factors, the effect of which further enhances the efficiency of the enterprise cluster. The collection of scientific and technological clusters and innovation infrastructure creates conditions for the development of the territory in which they are placed.

The most important institutional mechanism to support the formation of the territory of innovative development by state and local authorities is the development of infrastructure of the regional economic structures, which will be formed as enterprise clusters. The processes of globalization in the world economy contributes to the development of cluster technology, it can reduce (optimize) the company labor costs, increase the efficiency of individual branches due to the consolidation of knowledge and experience, as well as to reduce transaction costs on a separate territory.

Analysis of the trends of economic progress in the most developed countries shows that the reproduction in part of many business systems became steadily intense based in each of his series on the use of new scientific and technological achievements. The process of expanded reproduction began to be identified with an innovative type of developing itself as a reproduction that became known as an innovation (Kushlin, 2005. p. 34, 35; Kobersy Iskandar et al., 2015).

Without the introduction of innovation, the process cannot be the formation of an efficient economic structure, ensuring its high competitiveness. The success of the solution to this problem depends largely on the degree of activation of the innovation process, the formation and implementation of an effective innovation model enterprises cluster type (Kondrasheva, 2005. p. 34).

This is the most important conditions for economic development of the world's leading countries were the increase in competitiveness and ensure a leading position of the national economies in the international markets of high technology products. This condition, as the world practice shows, is possible only on the basis of the economy on the path of innovative development. The world economy is undergoing a transformation of reproduction, change of accumulation and change of the perceptions of performance criteria for the development of the economy. It began its transition to an innovative path of socio-economic development, including the use of cluster technology (Valentey, 2008. p. 14, 15).

Only innovation-oriented production and the economy, based on the latest achievements in science and technology can create products with high added value is in demand, can take advantage of the opportunities offered by the globalization of the world economy. At the same time setting targets and defining the

parameters - A necessary but not sufficient condition for achieving the desired objectives of innovation. It is absolutely essential to plan and measure the social and economic policies in a timely manner to concentrate resources on promising areas, to achieve their effective use (Glazyev, 2008; Arregle et al., 2013).

Describing the transformation of the world economy on an innovative path of development, the researchers say the formation of "innovation economy," "knowledge economy," "the economy based on knowledge," "the new economy" and others.

But regardless of the terminology and the assessments of causes of innovation, most of them recognize that change the type of reproduction. Its main feature serves the formation of national innovation systems, including through the creation and development of cluster technology.

There is a Standard International Trade Classification, according to which a group of 16 key technologies include high-tech products. Among them - The radioactive materials, pharmaceuticals, equipment for automatic data processing, semiconductor devices, telecommunications equipment, aerospace and medical equipment and others. In a group of high-level technology also includes 41 kind of products (including automotive products, machinery, electrical, chemical industry), which are designed for the mass consumer (Folomiev, 2005. p. 71-92). The participation of our country in this work is almost imperceptible.

Even amid the global economic crisis of the past the most developed western countries did not abandon the policy choice of innovation, involving innovative changes in the system of regional government with the use of cluster technology, as evidenced by the data in Table 1.

Analyzing Table 2, we note that in the United States according to the Small Business Act allocated 152 large cluster, which are supported by the state. The relatively small population of Canada, such clusters 8. In Japan they are 18, and here in the UK - 165. It is common clustering of small businesses in Italy, in the program of assistance to the sector included 152 such entities.

The effectiveness of the clustering of regional economic system is confirmed by a considerable number of examples. The most striking of which everyone knows - a cluster of information technology in Silicon Valley (USA). His influence on the development of the modern world cannot be overestimated.

But there are many other successful projects. Automotive Cluster - in Germany, in the region of North Rhine - Westphalia, perfume cluster - in Grasse (France), telecommunications - in Helsinki, Finland, that illustrate the data in Table 3. Among other clusters can be locked timber in Finland, the chemical - in Singapore biotechnology - in Sweden, the grocery - in the US state of Arizona, telecommunications - in Italy, aerospace - in Spain. It is no coincidence authorities in many states pursue a policy of creation of cluster areas in the individual regional economies.



Consider the basic model of competitive clusters of regional economies in the developed western countries (Italy, Japan and Finland) as an example of individual technologies (Gorky, 2008).

In Italy, a cluster called “industrial districts.” After World War II industrial district received a significant development in the north of Italy, it was formed as a result of a new economic region, which bears the name of “Third Italy.” Industrial districts in the country, as a rule, are located in small towns, with a significant role in the development of the cluster played by local municipalities. Clusters consist of many small craft businesses employing more workers. Despite their small magnitude, Italian craft firms are highly competitive in the global market.

High competitiveness achieved by three factors:

- Active cooperation of small producers through the creation of collective institutions that support firms county
- Maximizing the potential of product differentiation
- The high innovation activity of firms, flexibility and quick response to new consumer demands.

Thus, the “Italian model” cluster of regional economic system is highly useful for the production of relatively low technological level, but with a high degree of differentiation (Francese et al., 2014). The demand for products is subject to frequent changes, which allows small businesses to take advantage of its flexibility.

The main collective institutions for the development of Italian industrial districts are:

- National Conference of Artisans (NKR)
- Industrial parks;
- Financial consortia;
- Marketing consortia;
- Institute of Technology.

NKR combine small enterprises and have a wide network of representative offices for the provision of administrative services. The main features of the NKR representatives include:

- Services on accounting

**Table 1: Distribution of existing clusters in the countries of the world**

Country	The number of existing clusters
United States of America	380
Russia	72
Denmark	29
Netherlands	10 (megaclusters)
Finland	9

**Table 2: Number of clusters formed and operating under the support of the state**

Country	The number of clusters, using the support of the state
United States of America	152
Canada	8
Japan	18
United Kingdom	165
Italy	152

- Financial services (collectively, the provision of guaranteed loans)
- Assisting in the development of property assets
- Information services (including the provision of marketing and information technology)
- The organization of cooperatives to solve problems common to certain groups (quality control, purchasing large quantities of raw materials, export marketing).

Financial Consortium - An association of producers, facilitating small businesses obtain business loans in the bank. Financial Consortium provides an objective evaluation of the internal entrepreneurial ideas at the expense of a good knowledge of the industry, this estimate inexpensive. Consortium monitors the implementation of obligations under the loan, possessing the levers to collect funds in the event of failure of credit obligations. Borrowers get a loan through a financial consortium, bear liability to it and strive to make every effort to repay the loan.

Marketing consortium - Association of companies in the field of marketing, which contributes to international marketing opportunities. It provides the following services:

- Export promotion
- The organization of trade fairs and exhibitions, preparation of national and export catalogs
- Travel trade missions to foreign markets
- Communication with government authorities
- Market research, and business services
- Translation services
- Maintaining filing financial reliability of existing and potential customers
- The purchase of raw materials in bulk and warehousing
- Training.

So, in our opinion, based on the Italian model of cluster formation is the role of collective institutions that promote the effective development of a single industry. It should be noted that this model can be adapted to Russian regions for the production of low technological level, but with a high degree of differentiation (Kobersy et al., 2015).

**Table 3: Distribution by country and industry sector clusters in the world**

Country and location	Branch cluster
Silicon Valley (USA)	Cluster information technology
Germany (in the area of North Rhine - Westphalia)	Automotive cluster
Grasse (France)	Perfume cluster
Helsinki, Finland	Telecommunications cluster
Finland	Forest cluster
Singapore	Chemical cluster
Sweden	Biotechnology cluster
US State of Arizona	Food cluster
Italy	Telecommunications cluster
Spain	Aerospace cluster
UK areas around Edinburgh, Oxford and South East England	Cluster of biotech firms
Norway	Cluster “maritime economy”
Moscow, Moscow region	Cluster of Skolkovo Valley

Considering the Japanese model of cluster formation, it should be noted that the main distinguishing feature of the Japanese model of industrial cluster is the leading part of a large company, implementing an internal economies of scale and remain at the forefront of new technologies. “Japanese model” in the most complete form can be reflected on the example of companies “Toyota Motor Co.”

Background of the automotive cluster in Japan is the availability of entrepreneurial ideas (at that time in Japan, there was no car of their own business). The initial capital formed from the sale of technology in the textile industry. Demand for cheaper products from the United States formed the flow of necessary investments. History of the development of this company has been saturated with innovative ideas not only in direct mechanical engineering (e.g. creation of fuel-efficient vehicles), but also in all the elements of industrial activity. Principles of organization of the company’s business can be described technique “kaizen,” which implies a constant transformation and improvement of all the company’s activities (Gallenkämper et al., 2015).

Structure interaction in the automotive cluster in Japan is that the company leader manufactures the final product and creates a demand for components, it “gives life” many small supplier firms. Suppliers of the parent company are organized on the principle of a “pyramid.” Provided several levels: Suppliers of Level 1, Level 2, etc. Parent company directly interacts only with first-tier suppliers, the number is limited (usually 300). On the second level, the number of companies increased up to 5000, at the third level - up to 20,000 first-tier suppliers of Toyota, a special form of informal association “Kyoryokukai” (Association for the Advancement), within which there is a coordination using common production systems and the development of new products. Association defending the interests of suppliers to the parent company. Thus, the “Japanese model” is most applicable for the production of technologically sophisticated products, as product development requires high fixed costs that can be recouped only if the high volume of sales of the company (Shkurkin et al., 2015; Finaev et al., 2015).

The production process is characterized by a large number of links within the processing chain, and the parent company closes the chain and carries out “integration” of all the individual producers. In our opinion, the Japanese experience of cluster technology can be successfully applied in domestic science cities, specializing in technological developments.

Studying international experience, it is necessary to turn to the Finnish model of cluster formation of the regional economic system. A special feature of Finland is that it is a small economy that does not have a self-sustained domestic demand, so the clusters in the country were originally targeted for export. The main prerequisite for the creation of clusters in Finland is to ensure that the factors of production, mostly highly skilled workforce. Due to the fact that the overall economy is export-oriented (and thus firms within the cluster to compete with other large companies in the world market), the clusters in the economy are not exclusively national. Inside the cluster or present ties with the companies of - neighbors (e.g. Sweden and other Baltic Sea countries), or

take measures to search for and implementation of such ties. It should be noted that the Finnish economy has no significant natural resources, so the main engine of economic growth in Finland and the clustering is a high level of innovation.

Innovation is widely implemented thanks to development of the education sector, which has the active support of the state. For the Finnish economy is characterized by a high degree of clustering: All the key sectors in which created the bulk of the value added, clustered as well as a high degree of cooperation between clusters. For example, most cluster development (foundation of export economy) is a forest (wood), a cluster of supporting industries for him are the mechanical engineering and chemical industries, which in turn are also clustered.

Thus, the Finnish model is most useful for small compact countries, a relatively scarce natural resource. The economy of these countries initially focused on exports, it provides powerful support for the sector of research and development, as well as a developed system of education. In our view, the Finnish experience of cluster technology can be applied in the Russian regions with poor resource-base.

### 3. CONCLUSION

In summary, we consider it necessary to make the following conclusions:

1. The processes of globalization in the world economy contribute to the development of cluster technology can reduce (optimize) the company labor costs, increase the efficiency of individual branches due to the consolidation of knowledge and experience, as well as to reduce transaction costs on a separate territory.
2. On the basis of the Italian model of cluster formation is the role of collective institutions that promote the effective development of a single industry. Said model can be adapted to Russian regions to enterprises producing products of low technological level, but with a high degree of differentiation.
3. The Japanese model of clusters in the most useful for the production of technologically sophisticated products, where product development requires high fixed costs that can be recouped only if the high volume of sales of the company. In our opinion, the Japanese experience of cluster technology can be successfully applied in domestic science cities, specializing in technological developments.
4. The Finnish cluster model is most useful for small compact countries (regions), relatively scarce natural resource. The economy of these countries initially focused on exports, it provides powerful support for the sector of research and development, as well as a developed system of education. In our view, the Finnish experience of cluster technology can be applied in the Russian regions with poor resource-base.

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## Features of Building Control Systems Sub-locality in Modern Russia

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### ABSTRACT

For practical implementation problems of innovative development of territories in the planning period, using the potential of sub-localities, the development of effective management models and schemes require more advanced scientific and methodological base formed on research of modern processes of territorial management in Russia. It remains largely untapped resource cluster forms of coordination and motivation of business activity of economic entities at the sub-regional level. Disputable issues, methodological approaches and the special importance of solving practical problems of improving the system of economic management sub-localities, as well as the relevance of the scientific study of selected issues, led to the choice of the theme of the work, setting its objectives and the formulation of objectives.

**Keywords:** Regional Economy, Locality Management System, Economic Development

**JEL Classifications:** F38, O35, O10

### 1. INTRODUCTION

The prevailing so far in Russia types (models) manage local development in the literature is conventionally called "the state," "the city-industrial complex," "bureaucratic" and "people" (Kabashev, 2009).

Sub-regional economic center in the locality of "national model" - The center of government in the continuing economic passivity of the local leaders, who are based mainly on the traditional scheme of relations with the Russian regions. The criterion for management decisions are directives from higher authorities, and not the interests of the population. In these sub-localities poorly implemented innovative management technologies to local development are not held serious regulatory and institutional changes at the local level.

Economic development "city-factory" is determined by business interests of corporations located in these cities that are considering locality solely as serving environment - A place of concentration of resources, providing the production and marketing of products (labor, infrastructure, intellectual achievement, etc.). The power of local government in cities such a formality and is limited to the interests of the city-corporation (Amaldoss and Jain, 2015). The welfare of the municipal budget is largely determined by tax deductions city-forming companies, increasing financial and political dependence of the municipal authorities of the corporation. Business relations between the city and the corporation are built on the principle of charity: The corporation helps the city in the implementation of various urban projects.

"Bureaucratic model" of municipal economies is characterized by the desire to improve management efficiency, using public resources



(budget, municipal property). The most common manifestations of this policy - The purchase of shares in the authorized capital of commercial companies, as well as the provision of concessional loans. With this management model municipal economies are transformed into a kind of “municipal corporation” and the mayor - in a “business manager.” The local administration has a dominant position in the city market and controls it completely. There is a merging of business with local authorities, are set high barriers to entry of new businesses to the city market.

The purpose of “the people’s model of” management of local economic development is to create high-quality municipal environment, understood in a broad sense as a set of living conditions of the population and the functioning of economic entities on the territory of the sub-locality (Wu, 2013; Cederburg and O’Doherty, 2015; Hud and Hussinger, 2015). Control of the city is based on the full local self-government implies the existence of a clear mandate and the corresponding stable sources of income. The activities of local authorities’ transparency and accountability are between the people and businesses to create constructive dialogue based on mutual interest.

## 2. THE MAIN PART

The first two models to some extent determine the nature of the management of local development at the present stage. The third model with a high probability can be currently predominant, but some of its elements are also characteristic of the current stage of development of the local administration. The fourth model is currently little used.

Modern Russian model of building a system of economic management sub-localities based on the provisions of the Federal Law No. 131-FZ (FZ – Federal Law) dated October 06, 2003, “On general principles of local government in the Russian Federation (RF).”

Terms and conditions of formation of the system of local self-government in Russia since the beginning of reform of its political system and the formation of the relationship model of state and local government levels are associated with tough opposition rival power elites. The essence of the local government is often the output is not from his scientific and legal nature, as well as an opportunistic response to the appropriate policy conditions. Today’s priorities and policies in the field of local self-government related to the new state policy of the President of the RF, which in general can be considered as a policy of centralization of public administration.

The interaction of the state and local self-government begins with the definition of the main areas of cooperation that are in legal practice called local issues. On the basis of generalization of foreign practice of granting local governments a certain jurisdiction may be concluded that most of the questions at the local level, if we abstract from their purely legal understanding of the nature of the state.

Based on the practices of interaction between public authorities and local governments author considers it possible to state that

the municipal authority has a number of features inherent in the government: A distinct character of institutionalized; the existence of a separate device-specific exercise this power; continuity in time, the universality, the universality; on the basis of laws and other regulations; the implementation of a specific territory with respect to all individuals within its entities; the possibility of a legitimate use of violence; establishing and collecting taxes; independent budgeting.

It is necessary to draw attention to the fact that local governments cannot independently determine its terms of reference. Unlike the state, the community does not have sovereignty, as its territory there is a territory of the state (Neznamova, 2009; Muir, 2014).

The legal status and functions of local government in the national system of control due to a number of factors, both political and socio-economic. The role and the legal status of these bodies in solving the problems of the state and public always reflect the changes in the organization and the nature of the state, and the organization of local government - A key factor in implementing the rules of the state.

Analysis of the legislation in the field of local government suggests consolidating tough four-level system of local government with the obligatory presence of the representative, executive and administrative body - The local administration, the heads of sub-locality and monitoring body. In addition to these agencies, charter sub-locality can be provided for the establishment and other local authorities endowed with their own powers to address local issues. Legislator proposed a mechanism for a local referendum on the structure of local governments leads to the conclusion that it is objectively diminish the importance of sub-locality charter - A document regulating device municipal authorities, which must be accepted in their own localities after a deep and thorough discussion.

Assessment of the socio-economic situation of municipalities in the conditions of market transformation involves the allocation of the fundamental principles of the economic policy of the state and municipalities.

In our view, we can distinguish the principle of priority, i.e., the concentration of efforts of the state in key areas of sub-regional development through financial, tax and legal mechanisms. Isolation subregional development priorities to avoid egalitarian approach in dealing with sectoral and sub-problems and at the same time allow you to focus on the most important issues of economic and social development.

We believe that the priority approach to economic and social development is one of the main tasks of municipal policy. The methodological basis for the definition of subregional priorities, we believe, is a science-based allocation of sub-regions and economic sectors requiring priority development and applying for a large-scale, efficient and diverse support (Leontieva, 2008).

The study of the socio-economic literature confirms that overcoming emerging challenges should contribute to economic regionalization,

and under it - The allocation of areas for conservation management vertical, which must be endowed with certain powers delegated to both the RF and its subjects. At the same time, they should have their representation in the federal legislature.

Improving economic zoning as a management tool in developing market relations does not mean a radical revision of the criteria and principles of economic zoning developed in the USSR. However, their set today substantially modified and reinterpreted. The priorities areas, in our opinion, are to perform stabilizing functions, the restoration of economic ties, and through them - the economy and the social sphere.

Regulation of relations of the RF and its constituent entities, including municipalities, in our opinion, should be based on:

- Compliance with the principles of voluntary contracts and agreements of non-infringement of third subjects of the RF, the enforcement of contracts and agreements concluded with the necessary resources
- Ensuring the mutual interest of the RF and its subjects in the realization of strategic national goals
- Observance of statutory of powers between the state authorities of the RF and its subjects, land use, ownership and use of natural resources and other forms of public property
- Established subsoil licensing procedure
- Unified budgetary system, registered in the formation of budgets of all levels of financial and tax potentials of each subject of the RF, on the control of allocated funds, etc.
- Hard indicative planning with limited financial resources (Rabko, 2001; Faure, 2014).

Believe that the interaction of federal and state authorities of subjects of the RF due to the slow development of federalism is becoming more stringent. Currently, there are a number of shortcomings in the economic mechanism of federal relations. They are different and are not coordinated with each other forms of financial support subregions, which leads to two, sometimes four times the support of the same subject maintenance budget from the federal budget. Financial support is not divided into current and capital expenditure budgets, subregional, and it does not allow precise control of spending. Because of the existing deficiencies in the financial support of the subregions violate the fundamental principles of the Constitution of the RF - The equality of rights in relations between the subjects of the center. As a result, overstated the cost of the federal budget, the development of incentives to disappear from subsidized sub-regions. The variety of uncoordinated forms of financial support - A direct consequence of the lack of science-based forecasts of real needs in it. It eventually erodes the investment unit of the federal budget and the financial support of development programs that lead to the preservation of the decline in production.

Thus, the budgetary powers of the RF sub-localities defined by the Federal Law "On Amendments to the Budget Code of the RF regarding regulation of inter-budgetary relations" of August 20, 2004 No. 120-FZ of include, in particular:

- Preparation and review of the draft of the local budget, approval and execution of local budget, exercising control

over its execution, drafting and adoption of the report on the implementation of the local budget

- The establishment and execution of expenditure obligations of the municipality
- The provision of intergovernmental transfers from local budgets
- Implementation of municipal borrowing, municipal debt management
- Detailing objects budget classification of the RF in the part pertaining to the respective local budgets
- The establishment of norms of deductions to the budgets of settlements from the federal, state and local taxes and fees
- Establishment of procedures and modalities of intergovernmental transfers from the budget of municipal district budgets of urban and rural settlements, the provision of budgetary transfers from the budget of the municipal district budgets of urban and rural settlements
- Definition of the objectives and procedures for granting subventions from the budgets of settlements in the budgets of municipal districts
- Preparation of the report on the execution of the consolidated budget of the municipal district
- Establish procedures for drawing up, approval and execution of income and expenditure of individual settlements, municipalities are not included in the territory of the settlement.

It should be noted that the problems faced by the Russian budgetary system at the end of 2008 and in 2009 during the economic crisis, demanded certain changes the Budget Code of the RF. For example, the Federal Law of April 9, 2009 No. 58-FZ "On Amendments to the Budget Code of the RF and Certain Legislative Acts of the RF", which had been weakened by restrictions imposed by Art. 139.1, the size of other intergovernmental transfers provided from the budget of the RF, local budgets. The volume of other intergovernmental transfers may exceed 10% of the total transfers (without subsidies) in the amount of grants to support measures to balance local budgets (Goncharov, 2009).

However, under the Law "On the Federal Budget for 2010 and for the period up to 2012". It saved a number of significant issues specific to the system of intergovernmental fiscal relations in the RF:

- Insufficient fund of financial support of regions and unfairly low share of grants in the total amount of intergovernmental transfers;
- Sufficiently large number of subsidies (including small-scale), calling into question the effectiveness of the existing system of differentiation of account powers between levels of government;
- Excessive amount of subsidies when insufficiently transparent and effective system of distribution.

Limited own resources to ensure sustainable socio-economic development of the majority of Russian sub-localities determines their competition to attract into its territory of new and expansion of existing business entities, for which a significant factor deciding on the location and facility investment is the amount of transaction costs (Goncharov, 2009; Gurieva, 2015).

In the structure of total expenses of Russian entrepreneurs account for a significant proportion of the costs of overcoming administrative barriers and corruption communications services. This trend is due not only manifestations of rent-seeking officials, but also the initiative of entrepreneurs trying to influence the decisions of government bodies at various levels. According to the study conducted by the "INDEM," most such attempts are undertaken in relation to the authorities at the municipal level - about 64% of cases.

In addition, most of the leaders of local governments in Russia, in contrast to the countries of Western Europe and North America, do not have professional management education. The poor quality of municipal management - One of the main causes of ineffective regulation of economic activity at the local level (Goncharov, 2009). Because of the relatively low wages of municipal employees going flow of skilled personnel from municipalities in the regional and federal levels of government.

Which came into effect July 1, 2009 the Federal Law of December 26, 2008 No. 294-FZ "On the protection of the rights of legal entities and individual entrepreneurs in the exercise of state control (supervision) and municipal control" is intended to avoid duplication of state and municipal control, limit the ability of municipal officials putting pressure on the business with the use of checks.

However, analysis of small and medium-sized enterprises showed that municipal control (supervision) is often more onerous for businesses than the public. This is partly explained by the fact that activities of public servants in the field of control (supervision) are procedurally defined in detail in comparison with the activities of municipal inspectors. Excessive administrative pressure on businesses at the municipal level due to the lack of effective mechanisms to ensure the validity of interference in their activities for the purpose of control (supervision).

The impossibility of obtaining high-quality services of municipal employees are often due to the development of social networks aimed at establishing corrupt relations between the authorities and business. Many entrepreneurs' excessive administrative barriers are perceived as a restriction of competition and the effect of corruption in government, which contributes to the spread of stereotypes about the impossibility of productive cooperation with the authorities without payment of additional remuneration to officials.

Analysis of the content of strategic plans for socio-economic development of municipalities showed that the factor of high transaction costs are not fully taken into account. In particular, the study examined the strategic plans do not provide for better regulation of economic activity at the local level to create favorable conditions for business development and ultimately schetë, on this basis, the welfare of every citizen sub-locality.

Many of the measures the federal government to reduce administrative barriers, which are currently characterized by excessive, change the regional or local authorities, departmental

regulatory acts. In some cases, developed at the federal level are complemented by measures on the ground, which increases their efficiency and improve the socio-economic situation of regions and municipalities (Tsvetanov and Segerson, 2013). For example, in the Republic of Tatarstan actively developed their own regional development programs, objectives of which are to create favorable conditions for the emergence of new participants in the commodity markets. The program provides for measures to create the logistics, trade, energy, information infrastructure necessary for the development of economic activity.

Some municipalities carried out active support of small and medium-sized businesses. For its implementation, in particular, can be created municipal funds to support entrepreneurship, the main activities are: Consulting on entrepreneurial activities, provision of business incubator, registration of legal entities and individual entrepreneurs, legal address, office services, personnel services.

At the same time, there are cases when the federal government initiative designed to improve the socio-economic situation, local authorities interpreted in such a way that the resulting effect of the measures implemented is close to zero. You can give an example of the interpretation of the norms of the Federal Law of December 26, 2008 No. 294-FZ "On the protection of the rights of legal entities and individual entrepreneurs in the exercise of state control (supervision) and municipal control," limiting the duration of inspections of businesses 50 h. The establishment of 50-h limit duration of inspections ignored under the pretext of action against restrictions of one type of control (supervision), which, in turn, can be counted a few dozen.

The analysis of the management of the development of economic systems, sub-regional level in Russia showed that the effectiveness of management is low, does not meet modern requirements for quality management of the business environment in the region.

The activities of the municipal authorities (as well as at other levels of the regional management of the economy) are pronounced rent-seeking approach, a significant proportion of managers do not have the necessary qualifications for this activity, and this problem is common to most countries.

Reduction of the tax base of municipalities, the ever-increasing volume of unsecured authority aggravates the financial situation in municipalities.

The low share of own revenues in the budgets of municipal formations leads to the fact that the efforts of local authorities to build their revenue base does not lead to an increase in revenues of local budgets, and at best to stabilize, often to reduce. This is done both through the reduction in statutory transfers and through transfer of all taxes on the largest taxpayers in the budget of the federation. With this approach, local governments have no incentive to increase the tax base.

Elaborated in relation to the manufacturing industries integrated organizational structure cannot directly apply to this area as a territorial economy, because of its multidisciplinary nature, the



unsubordinated many participants, as well as strongly pronounced social mediation economic practices (Jankowski, 2014; Hirschman and Berman, 2014). This calls for further studies of organizational and financial processes in the sub-localities in a characteristic are currently volatile environment, and the development of original models and schemes of integration interaction of members of the territorial economy, ensuring the implementation of a mechanism aimed at steady growth in the living standards of their population (Cherniwchan, 2012; Gurieva, 2013).

The economic system of the modern sub-locality is a very complex territorial and economic education, with a range of quality of social and economic integration, aimed at solving the problems of progressive development of society and ensures its existence in manufacturing and services. Being poorly structured organization, farm town, village, administrative area within a limited area combines a variety of economic actors, goal-oriented to achieve a certain effect on its activities; however, in the modern setting coordination functions of the relevant administrative structures in some areas because of ineffective organizational disorder sets located on the territory concerned entities. This necessitates the invention of new forms of organization of territorial management, inherent to modern concepts of efficient economy sub-localities.

In the post-crisis limited resources of the Russian economy is exacerbated by the need to find new channels of investment territorial economy, including may become investment cooperation of regional administrations and municipalities with associates in the resort and recreational clusters of enterprises, as well as the economically active population (landlords, agricultural producers, artisans and others). Cluster form structuring territorial and economic spheres at the level of subordinated localities able to, on the one hand, to give it additional organizational and structural order, a predisposition to the development of innovative, on the other - To perceive the motivation of business activity, the inherent cost-free business organizations and individual entrepreneurs.

Construction of territorial-economic cluster on the principles of network organization informs him of organizational and structural flexibility, adaptability changing environment, the ability to expand the membership, predisposition to business-process forms of management.

The effective functioning of the cluster in the ways of innovative development is possible if building a system of interaction between the participants in a new Instrumentation and methodological basis by supplementing the federal and regional tax regulation tools, expanding the forms of regional and municipal support of investment activities of institutional regulation. Program-oriented regulation of investment activity of territorial and economic clusters sub-regional localities possible on the basis of systematic monitoring of financial processes in the organization and the environment, in-depth analysis of the status and prospects of development of the territorial economy and the inclusion in the effect of various scale and degree of importance of levers and incentives business.

### 3. CONCLUSIONS

Strictly portioned use of budgetary funds areas for investment projects in sub-localities on the principles of co-financing is intended to contribute to the expansion of the number of investors and the volume of funds invested in this area of the territorial economy. In a place with those conducted in the present study the analysis of publications and case studies show that only a small part of the sub-localities actually developed the strategy, regional socio-economic development of municipalities. The implementation of differentiated policy of regional alignment implies a typology of sub-regional development of the territories, followed by the procedure of determining specific development goals and objectives for each group of territories. In addition, the management of economies of sub-regional level in the countries with economies in transition is inherent to hide information about their activities. Transparency in transition economies are not yet perceived as an advantage in terms of image area.

In conclusion it should be noted that talking about the establishment of the Russian Institute of effective management of the economy sub-localities currently premature, if understood by the institute not only formal framework and informal components of the management of economic development.

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## **Assessment and Analysis of Resource Approach to Formation of Strategic Potential of Economy of the Region**

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### **ABSTRACT**

The present article offers the developed and proposed factorial estimation model for the total potential of the enterprise sector (in the region), including six factors describing the aggregate economic potential of the region as a set of conditions, resources and factors ensuring the reproduction process in it, depending on their level of internalization and recycling. Results of the study allow to systematize all existing approaches to the factors of production, as well as to improve these approaches according to the priority factor, effective usage of which streamlines branch structure of regions, reproductive and technological structure of capital investments and fixed assets, enhances the effectiveness of fixed capital.

**Keywords:** Regional Economy, Locality Management System, Labor Resources

**JEL Classifications:** P25, J53

## **1. INTRODUCTION**

The most important task of any economic system is sustainable, balanced development. Despite the elaboration of sustainability issues, there are many controversial, unresolved issues, which is due not only to the dynamism and to versatility of the problem, but also to a critical level in the interaction of human civilization and the environment. The task of determining the internal resources of economic development, the solution of which is associated primarily with the development of new approaches to defining the essence, structure and methods of assessing the sustainable socio-economic development of the region in modern conditions is becoming more and more important issue.

In the economic literature on the definition of the same potential, there are often a number of different points of view. While complex in its structure, the potential of the sustainable socio-economic system requires a fundamentally new approach to the system of its management by the state and the regions. The most important

task is a reasonable assessment of the potential and resources of the region with a view to a more efficient use and distribution. The current tools of economic evaluation factors of the economic development are still far from being perfect.

Forming the convenient and effective methods and tools for the sustainable development capacity measurement, allowing to give a clear interpretation of the results, represents a significant importance for both research and as management needs.

## **2. THE MAIN PART**

Taking into consideration the significant number of publications and researches carried out in this direction (Novoselov, 2012; Novoselov and Akhmadov, 2012; Novoselov and Novoselov, 2015; Zakharova et al., 2015), and giving them a greater importance, it is necessary to note once again the lack of unity of positions and opinions on the said issues, thus this problem still has no obvious solution. All this only determines the need

for systematization of scientific results to find new research ways in these areas.

The effectiveness of the functioning and development of regional complexes in market conditions characterized, above all, by the degree of the realization of the subsystem's own resources and, in particular, the strategic components of its elements, which eventually form the strategic potential of regional and its sectorial complexes.

The resource concept was the most adequate for the study of sources and mechanisms of regional economic development in the radically changed conditions of the competition.

It's safe to state that strategically coordinated development of the region's potential is limited to "bottom" and "top" by the corporative, sectorial and territorial priorities, imperatives and guidelines of the expanded reproduction of economic systems in the region and its complexes. There is also the need for their constant modernization and multidimensional harmonization in compliance with the main criterion - the unity of competitiveness, stability and safety of the process.

Thus, the methodological basis of the total resource potential, along with the theory of the production factors, is the theory of regional reproduction process, covering the interconnectedness of all subjects, factors and conditions of the regional economy.

Only an interconnected set of all factor and resource markets (consumer, capital, money, labor, status, information, etc.) ensures the effective development of the regional economy.

In the scientific literature, there are different approaches to the separation of the resources types.

One such classification involves the allocation of four kinds: Land, capital, labor and enterprise. From the standpoint of the possibility and reality of quantifying, the other classification is rather popular: Material, financial and human resources. From the standpoint of evaluation of the enterprise's resource potential as the ability to perform the intended processes and generate the desired results, it is convenient to divide the entire set of resources into three groups: Physical infrastructure (long-term resources, due to the essence of the process), current assets (assets, ensuring the implementation of the process) and human resources. These three types of resources, combined in the production and technological process ensure the achievement of the targets (Lutgen and Van der Linden, 2015; Kovalev, 2001; Makkaeva, 2008).

Resources of the first two groups are presented in the balance, i.e., they have a unique valuation. Human (labor) resources are not presented in the financial statements (except for expenses and arrears of wages that are subject to management accounting and internal analysis).

Material and technical base is only a part of the enterprise assets, however, is the most significant part that defines, in particular, the sector of the enterprise, and some ability to generate revenues and profits in the required volumes.

The labor resources are different from the material ones by the necessity of their remuneration, so their analysis is performed in four areas: Availability and condition, the movement, usage, and incentives.

The corresponding figures should characterize:

- The composition and structure of employees;
- Education and training;
- The share of managerial staff;
- The turnover of staff in various sections;
- The productivity of labor in general, by employee category and by department;
- Average wages in general categories of employees and departments;
- Effective usage of working time;
- The changing rate of the average wage, compared with the rate of change in output and profits;
- The effectiveness of systems for retraining, and others.

Traditionally, the factors are understood as: "Resources of the production activity and the economy in general (land, labor, capital, entrepreneurship); the driving force of economic, industrial processes, influencing the result of production, economic activity." However, such understanding does not exactly differentiates the resources and factors, it reduces the composition of the latter in the spirit of the neoclassical synthesis.

In a broad sense, the regional (branch) factors include:

- Economic and geographical location,
- Population and labor resources,
- The production unit,
- Infrastructure,
- Localized natural resources - energy, minerals and raw materials, biological, water,
- Transport factor,
- Scientific and technical potential,
- Form of territorial organization of the economy,
- Quality of management,
- Social climate, and others.

In addition, all the factors are grouped into permanent and temporary ones, cyclic and non-cyclic. The permanent factors include: NTP, territorial concentration of capital, government regulation. By the time factors include those that act occasionally: Regional social or other conflicts, natural disasters and other emergencies.

Cyclicity (recurrence) in the factors' actions is caused by seasonal fluctuations in production, product's and resources' life cycles, as well as the effect of general economic cycles, fluctuations in investment activity, and others. The factors determining the specificity of the non-cyclic nature of social production in a specific region.

Despite selected properties, from the position of involvement in the process of social production, factors differ from the resources and reserves, which is often ignored.

Based on the foregoing, it's safe to state that the factors of production arise from the involved in this process and resources are endogenous variables of regional economic systems, and environmental factors - independent or indirectly dependent on exogenous variables, or economic conditions. To measure the potential of socio-natural economic systems there must be a distinction between the resources and factors of production and the conditions of their development.

Terms of the overviewed systems create an environment with developed sectorial production; they are more stable and act as social or natural environment circumstances, formed and dominating at the moment and determining the course of reproduction. The concept of the situation or the particular situation lines up the type of the conditions, which is unstable and is able to change anytime, the business institutions must take this into consideration.

Natural and social conditions also act as a precondition of the regional process of reproduction. The necessary conditions for this process may be present or absent, but in a sense, they can be created, denied, taken into account or demanded. They serve as an input data: If conditions are met, and correspond to the real needs of the region and the interests of its subjects, than their reproductive process is accomplished successfully.

Thus, the concept covers the natural environment and public exogenous factors that create a regional environment and limiting the operation of the main endogenous factors of production. But exogenous factors act in relation to the production of not only as conditions. At their initial development, they become resources that may be involved in the production and become a factor. Therefore, the conditions of transition to the resources determine potential of the region or industry and factor components.

Metamorphosis is completed in the gross regional product (GRP) representing the summary of the results of the region's industrial activity (sectorial) and its enterprises in physical and monetary terms, the structure of costs and benefits, in their functional flows.

Since the economic system of the region cooperates with both natural and social systems, its sustainability objectively implies a proportional reproduction of economic, social and natural base in all their components, and the general expression of the development opportunities in the region is considered to be its economically estimated aggregate resource potential.

In a market economy, the resource potential of the region and its cross-industry reflects the state of the territorial complexes in the form of reproduction of the labor, technical, natural, institutional, organizational and informational capital.

It is important to note that the system of indicators that can be used as the basis for calculating the values of factors depends on the purpose of evaluation. There is, for example, an integrated socio-economic indicator "Human Development Index" proposed by United Nations Development Programme experts, and taking

into account per capita income, life expectancy, level of education. This index is certainly not a comprehensive measure of human development, as it does not reflect the structural, functional and dynamic characteristics of the human factor, the real well-being and creative abilities (Torres-Coronas et al., 2014).

The development of the information factor can be measured by indicators of the state of information and communication technologies, the extent of their use for the cooperation of all segments of the population and business growth activity in the creation and dissemination of information technologies.

Indicators of technical and technological equipment of the region measure the quantity and accessibility of labor sources to producers, the dynamics of technological change, renewal of fixed assets and so on, because the development of indicators and indicators for assessing resource potential of regional factors - is a special subject of study, which is devoted to special works.

Thus, the specificity of formation of the production (services) volume in each region is consistently determined by the general conditions, available resources and the proper factors of economic activity, among which now stand endogenous human, technical and technological, natural, organizational, institutional, and information resources.

The conditions of each sectorial production change by the extraction, compensation, accumulation and exhaustion, disposal and destruction of resources, carried out under the influence of both endogenous factors and the performance of enterprises and exogenous factors - environment and resources, and macro- and mega-environment. Therefore, the potential branch (region), firstly, depends on the mechanism of effective conflict resolution of the conversion process of the exogenous factors into the endogenous ones, and, secondly, by the search technique and the mobilization of reserves of endogenous factors.

Consequently, a comprehensive analysis of human, material, technical, institutional, organizational, informational and financial resources formation and development of regional or sectorial production can more fully identify the strategic reserves of potential growth, simulate processes and to use them to develop appropriate mechanisms for the implementation of these models into management practices.

The total capacity of the enterprise sector (in the region) should include almost all areas of activity: Management, production, scientific research, finance, marketing, and others.

$$P \geq P_p, P_{mt}, P_f, P_{sp}, P_{ou}, P_m, \dots$$

Where,

$P$  – Cumulative potential,

$P_p$  – Potential of the personnel of the enterprise (vocational, motivational, sociocultural);

$P_{mt}$  – Potential of material base (extent of capitalization of assets, mobility, wear, technological equipment);

$P_f$  – Potential of financial resources (volumes, structure of finance,



extent of centralization, dependence on credit resources);  
 Psp – Potential of strategic planning (existence of mission of the company, system of the purposes, target programs of development, center of strategic planning);  
 Poa – Organizational and administrative potential (OAP) (type of organizational structure, management styles, leaders, adoption of administrative decisions, corporate culture);  
 Pma – Marketing potential (MaP) (market share, positioning of goods, image of the company, brand).

The basis of decision-making management is an effective attraction and allocation of scarce resources, the factors and forces between capacity building and its use, reproduction between the complex and its links in the production of intermediate and final products. This, in dynamic and difficultly predicted environment, creates the conditions of strategic risk and uncertainty, requiring the priority use of resource-factorial approach to the development of analysis and development methods of strategic potential, taking into account the specifics of each regional industry. Based on the said conditions and the principles of isolation, we should agree to the opinion of scholars who claim that the methodological basis for the definition of the aggregate resource potential, along with the theory of the factors of production, is the theory of regional reproduction process, covering all subjects of relationships, factors and conditions of the regional economy.

Based on the facts above, we can conclude that, overall economic potential of the region – is a set of conditions, resources and factors providing the reproduction process in it, depending on their level of internalization and recycling. It takes into account the volume of real resources and factors located within a particular region and field expressed in specific qualitative and quantitative indicators, which express the potential of their implementation.

In other words, resources available for use as factors of reproduction with regard to their quality, quantity and combination determine the overall economic potential of the region.

Most modern scientists and economists consider the factors of production rather than as resources (natural, material and labor), but the parameters that have a direct impact on production. This approach also makes it possible to significantly expand the list of factors of production, incorporating the technology, production, information (Novikov et al., 2015; Karepova et al., 2015).

According to an author's position, production can be presented as purposeful process on creation of production or rendering service for satisfaction of public and personal needs, i.e., in other words is a production system in which transformation of factors of production in a ready-made product is carried out (a product or service). Thus, all factors of production work are interconnected and supply each other. The economic model of production specified in the article, thus urged to reflect communications between resources, expenses and results of production represents the following scheme of production:

Production factors (human resources, means of labor, objects of the labor) - The expenses connected with consumption of production factors: The live work (compensation - FROM); means of labor (depreciation - And); objects of the labor (material

inputs - MZ) other expenses-Production-the Income (profit) = Sales proceeds - minus cumulative production expenses (OT + A + MZ) minus other expenses.

The researches of different approaches to the concept and estimates of production factors and resource potential of enterprises and industries in the region, presented in numerous publications, monographs and other scientific publications, allows you to make a generalized conclusion is this. Indicator of the resource potential is to integrate all the affecting characteristics of the internal and external environment, namely:

- The potential labor resources (personnel) (MP);
- Production capacity (state equipment and depreciation of fixed assets) (PP);
- Potential financial resources (FP);
- OAP;
- MaP (competitiveness and position in the market);
- Information potential (IP); the potential quality of service (KP).

The methodological basis for determining the total resource potential (PSB RP) of industry, along with the theory of the factors of production, is an approach that covers all subjects of relationships, factors and business environment of the industry.

Only the interconnected set of all factor and resource markets (consumer, quality, capital, money, work, status, information, etc.) ensures the effective development of regional (branch) of the economy.

In the article (Brekke, 2015; Bostanov, 2007; Omura et al., 2015) the following approach to the assessment of the resource potential and strategic industry is set out. Strategic resource potential (SRP) of the industry, in its opinion, is the difference between the realizable and promising opportunities ability to convert the aggregate resources available in the factors of production for products (services), satisfying the maximum purchasing power in the interests of "society - state - region - industry - productivity the consumer."

SRP of development of the region's sector is defined as a difference between its potentially possible value on the beginning ( $SRP_{begin}$ ) and end of realization ( $SRP_{end}$ ) strategy (potentially possible in the future). The last represents the special importance as the gap assessment between necessary and actual parameters of its components by realization of actions for reforming and optimization of a control system of branch is important for ensuring sufficient level of strategic potential.

This approach to an assessment of strategic resource capacity of branch is used and in work (10) which author defines SRP indicators as works of cumulative resource capacity of branch and an integrated indicator of social and economic production efficiency of production (services) to an assessment of strategic resource capacity of agrarian and industrial complex of the Chechen Republic.

$$SRP = (CRP * KSEE)_{begin} - (CRP * KSEE)_{end}$$

To increase the realization efficiency of the strategic potential of the region's economic complex it is necessary to carry out the

factorial analysis of influence of all making SRP on the beginning and for the end of the period of realization of strategy. Then - to develop the mechanism allowing to define an optimum level of use of this potential that, in turn, demands definition of its structure and an assessment of all components it elements.

The technique of an assessment of strategic resource capacity of branch offered in the works mentioned above gives the chance to develop the program of actions of a sustainable development of the enterprises and branches of the region on the forthcoming prospect.

With all due importance of the researches' results of the specified authors, we consider that the technique stated by them needs specification and completion.

First, it regards the indicators of cumulative resource potential – CRP.

We will consider the assessment of an indicator of cumulative resource capacity of branches of the region offered by us.

Its essence consists in the following:

Structurally CRP of branch it is presented by the following making indicators:

- Potential of a manpower - MP;
- Potential production - PP;
- Potential of financial resources - FP;
- OAP;
- MaP;
- IP;
- Investment and innovative potential - IIP;
- Natural and raw potential – NRP;
- Technological potential – TP;
- Socio-political potential – SPP.

The indicator of CRP of branch in works (Novikov et al., 2015; Kovalev, 2001) is defined, as:

$$CRP_{branch} = (k_1 * MP_{branch}) + (k_2 * PP_{branch}) + (k_3 * FP_{branch}) + (k_4 * OAP_{branch}) + (k_5 * MaP_{branch}) + (k_6 * IP_{branch}) + (k_7 * IIP_{branch}) + (k_8 * NRP_{branch}) + (k_9 * TP_{branch}) + (k_{10} * SPP_{branch})$$

Here:  $k_1, \dots, k_{10}$  - the share coefficients showing the importance of each factorial indicator of CRP which in the sum make unit. Share coefficients are defined by an expert method (estimates and poll), leaning in information aspect on system of branch monitoring.

We consider that use at these calculations of method of expert evaluations isn't rather objective and exact and therefore we suggest to define an indicator of CRP, how average geometrical the sums of all 10 components of indicators, i.e.:

The making (factorial) indicators of resource potential thus are defined by quantitative measurements according to standards or for actual data as follows:

$$MP_i = NW_{fact} / NW_{necessary}$$

Where,

$NW_{necessary}$  – respectively, the actual average number of the workers occupied in this  $i$  – oh branches, and the necessary number determined by data of the economic analysis of efficiency of use of a manpower of the same branch;

$$PP_i = W_{fat} / FA_i$$

Where,

$W_{fat}$  и  $FA_i$  – respectively, the cost of wear of fixed assets and their initial cost on this branch specified according to revaluation at the moment of time;

$$FP_i = (OC + LC)_{i\ fact} / (OC + LC)_{i\ necessary}$$

Where,

$(OC + LC)_{i\ fact}$  и  $(OC + LC)_{i\ necessary}$  – respectively, the actual sum of own and attracted in this branch capital and the sum of the same capital calculated taking into account an assessment of financial and operational requirements and achievement of necessary indicators of profitability of production in this sphere;

$IP_i$  ( $OAP_i$ ) – are defined, respectively the following ranges of sizes:

- From 0 to 0.5 - low level of transparency of information for the enterprises, the organizations and investors (respectively, the low level of the organization and management);
- Over 0.5 and to 1.0 - average level, respectively;
- Over 1.0 and to 1.5 - above the average level according to all set of branches, respectively;

$$MaP_i = VRP / VMP_i$$

Where,

$VRP_i$  and  $VMP_i$  – respectively, the volumes of the realized and made production in this branch characterizing supply and demand on sales markets, price policy, volumes and consumer activity in these markets, etc., i.e. defining functions, tasks and the organization of marketing activity;

$NRP_i$  - s defined by an expert assessment fortune in total all the following sizes making a natural source of raw materials in this branch ranges:

- From 0 to 0.5 - the low level of a condition of a natural source of raw materials;
- Over 0.5 and to 1.0 - the average level, respectively;
- Over 1.0 and to 1.5 - above the average level according to all set of branch, respectively;

$$TP_i = SCE_i / SCE_0$$

Where,

$SCE_i$  – the average specific cost of expenses (on production of a unit of production) in this branch for the last 3 years;

$SCE_0$  – the same indicator on average on group of the same branches of other regions (in quantity - m):

$$SCE_0 = \frac{1}{m} \sum_{i=1}^m SCE_i$$

$SPP_i$  – is defined by an expert assessment of a condition of the social sphere and a political situation in this region and in this territory, influencing to straight lines or indirectly results of activity of this branch. It is characterized by ranges of the following sizes:

- From 0 to 0.5 - the low level of a socio-political situation;
- Over 0.5 and to 1.0 - the average level, respectively;
- Over 1.0 and to 1.5 - above the average level by a similar assessment in other regions, respectively;

Further, the strategic resource capacity of branch ( $SRP_{OTP}$ ) it is expedient to determine, how work of CRP and an integrated indicator of economic efficiency of production of each branch.

$$SRP_{branch} = (CRP_{branch} * EE_{branch\ beginning} - (CRP * EE_{branch\ end}))$$

Strategic resource capacity of the region is defined how the sum of strategic resource capacities of all branches of the region, considering the last structurally as the sum of branches of the region of material and non-material production.

$$SRP_{reg.} = \sum CPII_{branch\ i} = \sum (k_1 * SRP_{branch\ 1} + k_2 * SRP_{branch\ 2} + \dots + SRP_{branch\ n})$$

Here:  $i$  – Changes from 1 to  $n$ , where,  $n$  – number of branches of the region.

$k_1 \dots \dots \dots k_n$  - The share coefficients showing the importance of an indicator of strategic resource capacity of each branch of the region, making unit in the sum. Share coefficients are defined by an expert method of estimates, leaning in information aspect on system of regional monitoring.

### 3. CONCLUDING REMARKS

The sustainable development of the region's economy is characterized by a set of factors and communications, and it is impossible to fully express those by methods of the determined analysis.

First, we have the factors defining system of indicators of social and economic development of the region which, being, various according to the destination, to a way of an assessment take place here and on units of measure, at the same time are in a condition of numerous interrelations among themselves which need to be estimated.

On the other hand, it is also necessary to estimate interrelations in system of resources between various capacities of the region which are also numerous and difficult to formalize.

Thirdly, both considered systems are also a condition of multiple communications with one another. It needs to be estimated, as only in this case it will be possible to bring them together for the solution of the main task: Development of a technique of an assessment of strategic potential of development of the region providing a sustainable development of its social and economic system.

We suggest to solve this problem, using as a link between these two systems, an indicator of the GRP, estimating consistently interrelations of indicators of the first system (indicators social and

economic development) with VRP indicator, and indicators of the second system (resources and capacities of the region) – also with VRP indicator. Thus, we suggest using methods of the multiple correlation analysis allowing revealing interrelations in difficult multiple-factor systems.

Thus, the offered techniques of an assessment of SRP for each economy sector and the region in general are forming objective base. It can be used for further development and improvement of methods of an assessment of strategic potential of a sustainable development of regional social and economic system, defining development of the main actions of strategy of social and economic development of the region.

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# Some System Problems of Russian Mining Enterprises of Ferrous Metallurgy

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## ABSTRACT

The results of the original scientific research directed on the estimation of prospects and restrictions of activity of Russian ferrous metallurgy mining enterprises under present-day conditions have been presented in the article. It has been shown that ferrous metallurgy branch is one of traditional indicators of economic development of the country. The place of ferrous metallurgy among other Russian industries has been identified. The place of Russian ferrous metallurgy enterprises in the world production structure has been shown. The estimation of iron ore reserves which are supervised by leading world companies of ferrous metallurgy has been given. Some objective and subjective branch problems of the mining enterprises of ferrous metallurgy have been revealed. Such system problems of Russian metallurgical complex as low power and ecological efficiency have been identified.

**Keywords:** Mining Enterprises, Ferrous Metallurgy, Metal Production

**JEL Classifications:** L61, L71, P13, P42

## 1. INTRODUCTION

Ferrous metallurgy branch organizationally and technologically unites enterprises for extraction and concentration of iron-bearing ore and non-metallic raw materials, iron and steel making, ferroalloys making, rolled steel making and products of the further conversion making. Ferrous metallurgy is one of the oldest branches of heavy industry in Russia and other countries. It forms a raw-material base of development of mechanical engineering, motor industry, building industry. Iron ore is a raw-material base of ferrous metallurgy. Economic security of Russian ferrous metallurgy enterprises is based on timely delivery of qualitative Russian raw materials. Thus, the success of Russian ferrous metallurgy in many respects depends on efficient activity of mining enterprises of the branch.

Foreign-economic activity in ferrous metallurgy have essentially extended for last two decades. Deep integration into world economic space became one of acquired features of the branch. Never before mining enterprises of ferrous metallurgy participated

in such sharp struggle for leadership in global competition. Never before technical and technological backlog of the industry was perceived so sharply, system problems of the environmental pollution and low power efficiency.

## 2. ANALYSIS OF RECENT STUDIES AND PUBLICATIONS

Ferrous metallurgy branch is one of the traditional indicators of economic development of the country. The estimation of volumes of iron ore output, the analysis of main domestic and foreign sale markets, the forecast of mining and other metallurgical enterprises development give the detailed picture of economic situation in which the state is. Production functions of mining enterprises of ferrous metallurgy form among others gross regional product of Russian Federation (Skufina et al., 2015).

Ferrous metallurgy always reacted to economic crises very strongly. Crisis of the financial markets give rise to crisis in industry and building. As a result the demand for ferrous metallurgy production



is sharply reduced. Mining enterprises have to make more active anti-recessionary programs. There is a necessity to regulate the amount of iron ore extraction by a partial stop of the equipment or by considerable reduction of productivity.

But the withdrawal of the national economy from a crisis and stabilization in the industry always involves the growth of demand for enterprises of ferrous metallurgy production. Accordingly, the demand for iron ore grows. Therefore many Russian and foreign economists addressed to the situation analysis in ferrous metallurgy as to the crisis indicator in the country. This question was considered in the papers of such Russian analysts as Antipin and Zinovieva (2009), Zinovieva and Ovchinnikov, (2010), Romenets and Ilyichev (2009).

Now the importance of ferrous metallurgy for prosperity of America, European and Asian countries is even more obvious than earlier. Ferrous metallurgy together with other industrial branches was, is and will be the basis of the economy and well-being of these countries population. Such analysts as Eder (2013), Harste and Ljungen (2011), etc. considered the problems of economic lifting and industry revival in ferrous metallurgy in their papers.

At present the processes of globalization and deepening of integration of the countries extracting iron ore in the system of world economic relations are on the rise. The World Trade Organization (WTO) role as regulator of trade relations between manufacturers and production consumers including iron ore amplifies in the international market. Such analysts as Kerkhoff (2014), etc. touched upon the issues of mining enterprises of ferrous metallurgy activity in the international market in their papers.

The equipment of mining enterprises of ferrous metallurgy needs constant updating because of specifics of production processes. Innovations in technologies underlie maintenance of Russian enterprises of ferrous metallurgy competitiveness in the world and internal markets. Baranov and Samarina's (2015) works, etc. are devoted to these problems.

Problems of ecological production efficiency and power-intensity decrease in ferrous metallurgy have been studied in Kerkhoff (2014), Samarina (2003; 2008) and Tkachenko's (2015) works. The researchers mention that the modern situation at mining metallurgical enterprises sets thinking of a policy in the sphere of energy and environment preservation.

### 3. KEY FINDINGS OF THE RESEARCH

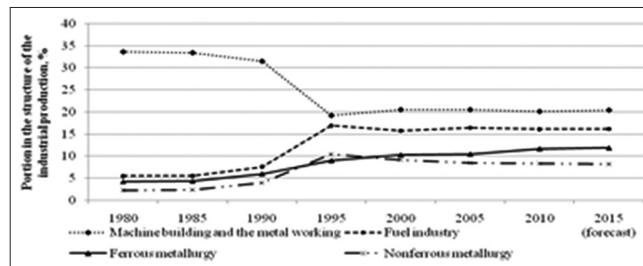
Let's examine the importance of ferrous metallurgy for the Russian Federation from the positions of foreign and domestic economy.

#### 3.1. The Place of Ferrous Metallurgy among Branches of Industries in Russia

Ferrous metallurgy is one of the leading branches of industries in Russia (Figure 1).

The analysis shows that ferrous metallurgy for last 15 years has been stably taking the third place in the structure of industrial

**Figure 1:** The dynamics of the share of the key branches of the National Economy of Russia in Structure of the Industrial Production, % (Russian Statistics Committee, 2015)



production of the Russian Federation after mechanical engineering, metal working and fuel industry as well. Ferrous metallurgy share especially quickly grew from 1985 to 2000, and then was stabilized at the level of 8%. Positive dynamics of the growth of ferrous metallurgy share in industrial production structure is marked at that. Thus, ferrous metallurgy development is extremely important for the economic health of Russia.

#### 3.2. The Estimation of Iron Ore Reserves at the Leading World Ferrous Metallurgy Companies

The big development in metallurgy worldwide the practice of vertically integrated structures creation on the basis of property rights prevails. Such major companies (holdings, groups, etc.) quite often merge enterprises for iron ore and coal extraction and concentration of iron ore, steelmaking, production of rolled metal, enterprises of thermal and electric energy manufacture, transport structures, commercial and financial sectors (Harste and Ljungen, 2011).

The analysis shows that iron ore extraction and basic metal production manufacture are concentrated in several large transnational companies. Almost half of world industrial output depends on five largest raw iron-ore materials suppliers. Thus, ferrous metallurgy industry is characterized with high concentration level. Apparently, this concentration will become stronger with time. We will notice that Russian company metal-invest is part of a quintuple of world leaders of iron ore manufacture after Vale, Rio Tinto, BHP Billiton and Fortescue Metals Group with production volume about 40 million tons per year (Official Internet-portal the Company Metalloinvest, 2015).

The worldwide tendency is that the basic deposits of rich and accessible iron ore continue to become depleted. Such a situation strengthens positions of the largest company's leaders of raw iron-ore materials manufacture that have a right to the richest iron ore deposits development all over the world.

The analysis shows that the basic confirmed and probable ore reserves belong to these leading companies as well (Figure 2).

In accordance with the amount of explored iron ore reserves Russian Company Metalloinvest takes the second place after the Brazilian mining company Vale that have its branches worldwide.

On the whole Russia takes the first place in the world on total and confirmed iron ore reserves. According to the official data

mineral and raw materials base of ferrous metallurgy in Russia is 264 billion tons of iron ore (Official Internet-portal the Company Metalloinvest, 2015). Thus distinctive features of the Russian iron ore are:

- Basically low ore grade: Iron content is 16-32%, complex mineral composition, ruggedness;
- Need for concentration of ore;
- Considerable depth of occurrence;
- Adverse mining enterprises location concerning consumer plants:  $\frac{3}{4}$  commodity iron ore is manufactured in the European part of Russia whereas  $\frac{2}{3}$  metallurgical works are located in Ural and Western Siberia (Chernikova et al., 2015).

### 3.3. The Place of Russia among Basic World Iron Ore Manufacturers

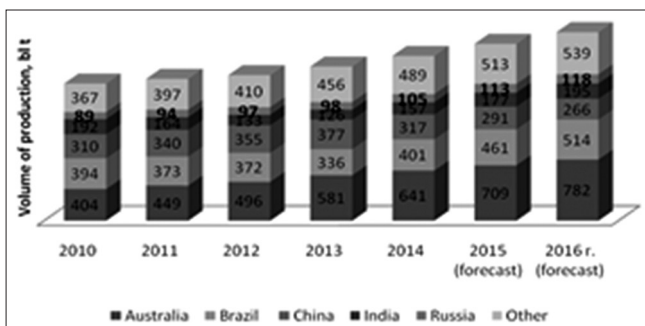
Russia is one of the largest world iron ore manufacturers. In accordance with this indicator the Russian Federation cedes top ranking only to China, Brazil, Australia and India (Figure 3).

Australia is the leading iron ore manufacturer (almost 30% of world extraction recently). Brazil actively extracts iron ore as well (18%). India accounts a little more than 6%. Chinese manufacture makes 18-19 % of the world iron ore extraction. Its extraction amount constantly grew: From 310 million tons in 2010 to 377 tons in 2013. However setback in production is predicted: In 2016 it will make up only 266 million tons. The decline of iron ore production 29% in 2016 in comparison with 2013 is expected. The role of other countries in iron ore manufacture is insignificant (Rating Agency "Expert RA", 2015).

**Figure 2:** The confirmed and probable ore reserves, billion tons (Official Internet-portal the Company Metalloinvest, 2015)



**Figure 3:** Basic world iron ore manufacturers (Rating Agency "Expert RA", 2015)



Russia accounts about 5% of world iron ore and its extraction amount constantly grew: From 89 million tons in 2010-105 tons in 2014. However growth rates of iron ore offers by Russian manufacturers is insignificant in the world market: Total volume in 2013 grew by 1% against 2012. Hereinafter, volumes of output will only grow. The forecast for 2016 is about 118 million tons. In accordance with such extraction amount Russia will keep 5% of world iron ore manufacture.

### 3.4. Branch Problems of Mining Enterprises of Ferrous Metallurgy

At present moment Russian ferrous metallurgy tries to solve a new large problem, namely securing of effective functioning of the mining enterprises of metallurgical complex in the WTO system. Dynamical changes in the world economy, intra Russian institutional conditions, antirecessionary, investment and foreign-economic policies will figure in this situation, as well as practice of work of metallurgical enterprises of the European Union countries in the WTO system.

Mining enterprises of ferrous metallurgy are attached to iron ore reserves. Regardless of the country they are located; all of them have some branch problems, such as:

- Reserve depletion of qualitative iron ore;
- Deterioration of deposits operational characteristics;
- Difficult availability and adverse environmental conditions (desert, mountain desert, north zone) in the territory of new deposits;
- Considerable material capacity and energy intensity of manufactures.

First three problems have an objective nature. Enterprises cannot change them, but can only get adjusted and take them into account by designing development programs. Considerable material capacity and energy intensity of manufactures is caused by nature of manufacturing processes at mining enterprises of ferrous metallurgy. However, these problems have subjective nature. Enterprises can and should work on their solution.

### 3.5. Some System Problems of Russian Metallurgical Complex

In this connection, in our opinion, it is appropriate to pay attention to some system problems of the Russian enterprises of the metallurgical complex which will inevitably be aggravated in an existing situation.

First, in accordance with the level of pollutant emissions into atmosphere and reservoirs, pollution of soils and formation of solid waste, metallurgy wins the first place among all raw-materials branches of the industry. It creates high ecological danger of its manufacture and the raised social intensity in fetches of metallurgical plants.

According to requirements of the WTO, Russia should pay special attention to systems of standardization, certification and licensing of home industry, provide quality of product control of Russian commodity producers according to world standards. In

industrial democracies the ecological efficiency requirements, in particular environmental safety and ecological purity of production requirements become more and more tough. At modern metallurgical enterprises up to 15-20% of general capital investments have to be turned to guarantee of ecological purity of metallurgical enterprise functioning. For going into the world market in the WTO system Russian metallurgical enterprises should receive (and annually confirm) all necessary certificates of production quality. Including the certification of conformity of manufacture and production to international standards of ecological efficiency.

Secondly, ferrous metallurgy is one of the most power-intensive industries. The share of costs for fuel and energy resources in the general manufacturing costs for metal products manufacture is more than 30%. Energy intensity of Russian rolled metal on 30-50% exceeds a similar performance for metal products in developed countries.

High power intensity of metallurgical manufacture regards problems of economy of energy supply at a constant rise of prices for fuel and energy resources as of paramount importance. Russian metallurgists made certain efforts in the scope of increasing of power efficiency. Many metallurgical enterprises have achieved saving of consumption of fuel and energy resources. But basically it has been achieved at the expense of institutional arrangements and home working balances. At present moment they have exhausted their potential. Practically all reserves of such economy in ferrous metallurgy of Russia have been used. The further increase of power efficiency of enterprises of ferrous metallurgy is connected with qualitative modernization and technical re-equipment of production of manufactures.

At the same time, the power savings potential in the branch reaches 30%. At present power savings questions for metal works are not only one of the basic directions for cost reduction and competitive recovery of metal production in the European Union markets, but a survival condition as well.

#### 4. CONCLUDING REMARKS

In conclusion we would like to notice that the expansion of foreign-economic activity connected with Russia's joining the WTO, has brought to a competition aggravation in the European market. The tendency is also supported with such fact as entry of the European economy into the stage of setback in production and, thereafter, reduction of metal products prices.

For problem-solving of competitiveness control of metal products in the European Union markets it is necessary to have strategy of development of the branch that is inseparably linked with the basic directions of ecological efficiency and economy of energy supply. If Russia wants to remain at the European market at least as the supplier of resources and metal half-finished products, it should essentially reconsider its ecological and energy policies. Rather low level of expenditure of energy and resources and high ecological efficiency became the condition of competitiveness of Russian metal production in the European markets. The

price level related to high specific consumption of energy carriers and ecologically dirty manufacture will either make Russian production non-competitive or at least reduce profit of metallurgical companies.

Ferrous metallurgy at present moment is in great need in concrete programs of increasing of both ecological and power production efficiency. And the principal direction here is the commissioning of progressive and energy-saving technologies and equipment that provide rational nature management. In addition, the task of creation of institutional conditions of technical re-equipment of production support in ferrous metallurgy at the cost of tax concessions and incentive rates, subventions and some other preferences is assigned to the state.

The increase of power and ecological efficiencies is an uncontested way for Russian ferrous metallurgy. Otherwise, Russian metal production will not be competitive. All further added cost, new workplaces, inflow of investment of capital and finances will be created in the European Union countries. And Russian ferrous metallurgy will be used as a raw materials' source for the European market of metal production.

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## Basic Characteristics of an Intensive Type of the Reproduction Process in the Regional Economy

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### ABSTRACT

The announced subject of the paper proposes the consideration of such categories as "regional economy," "reproduction" and "intensive type of the reproduction process." Also, it is necessary to tell that the research material reflects regional science which is formed on the basis of classic economists' works on three vectors which they have offered: "Locational vector" which task is to find a key to the most expedient dislocation place of the future enterprise; "regional vector" aiming at finding the best sizes and the structure of economy of the studied region; "complex vector" aiming at the connection of localization and regional economic issues by the common theory.

**Keywords:** Regional Economy, Development, Reproduction

**JEL Classifications:** P25, R58

## 1. INTRODUCTION

In general, subject to indicators of the Russian Federation it is important to note that the social and economic development of regions of the Russian Federation experiences the increasing influence of three main conditions of the spatial and economic development now (Korchagin, 2011):

- The market one means the interpenetration regional, national and world markets. For the Russian Federation and its regions the most significant are liberalization of the foreign trade and removal of protectionist restrictions as a result of coming into effect of the agreement with the European Union and possible acceptance into the World Trade Organization in the near future.
- The competitive one means deepening of competition at all mentioned above markets (in the first point), non-price competition - competition in the field of the quality of life and innovations takes a special place. The indexes of "The quality of life" on regions of the Russian Federation were given above.
- The production one means the gradual transition from Fordism to post Fordism as to a way of the organization of production

that means the replacement of mass production with small-scale one; the replacement of the vertical work organization with horizontal one; low individual responsibility – with partnership of the individual in production.

## 2. MAIN PART

Material conditions conduct from territorial differentiation and division of labor to its territorial integration, from homogeneity of the regional markets to diversified ones, and in general from the national regional policy to regional one at the level of certain regions of the Russian Federation.

Material conditions which now are favorable for enterprises placement in the Krasnodar Krai, tomorrow mean an additional potential for investment resources attraction, the increasing employment and the solution of another urgent regional problems. Thus, at the same time they become material conditions and indicators of successful social and economic development of the Krasnodar Krai in the future (Korchagin, 2011; Sadkov, 2001).

Let's notice that it is necessary to consider the influence of these changes on competitiveness and managing social and economic systems in the territory of the region, and the regions. For example, for regions it means that ones are developing as economically strong territories, are capable to mobilize their own resources and to attract additional investments. Others remain at the periphery, the third ones are developing only in certain specific spheres (the example - tourism and agriculture, characteristic for territories of the Krasnodar Krai). In this case it is necessary to designate what material conditions (or factors) have first of all to consider economic entities and what conditions have to improve spatial and economic development of the Krasnodar Krai for the increasing competitiveness.

Speaking about characteristic material conditions, we will note, as well as any economic system, for example, the Krasnodar Krai has internal and external environments which are interacting. These communications can be both of the direct and indirect influence. For the qualitative characteristic and an assessment of dynamics of the internal environment change it is enough to analyze the following groups of material conditions characterizing:

- Production and resource capacity of the region;
- The structure of the regional market;
- Personnel capacity of the region;
- The regional budget;
- The strategy of development of the region.

The development of processes of internationalization and globalization of the world economic activity has caused the emergence of a new scientific direction of regional economic science – a spatial approach. Within a spatial approach there are different points of view for consideration of the economic space: System and structural, economic and legal and geopolitical. We consider that the designated points of view in the economic space research of the region are mostly shown by characteristics of the reproduction process at the level of the region, which as the self-organizing, difficult, dynamic system is evolving during interaction with the environment.

For the further research within the present section subject to Gavrilov's (2002) conclusions, we will allocate the characteristics causing the reproduction process of the region considered separately: The amount of the population and the size of the territory (geographical location); specifics of prevailing kinds of the activity (production and functional features); a character of objects building of the production activity, housing and service (town-planning features); the norms of communication, behavior (sociological features).

It is impossible to disregard that fact that the region (the author's note: Including its economic space) does not possess an opportunity to liquidate inefficient conditions that causes the decreasing efficiency of the economic space of the region and the emergence of the need for additional budgetary funds, first of all, funds for formation and development of objects for the improvement of the social sphere of the population of the region and its infrastructure. In this regard the directions on the increasing

efficiency of the use of all infrastructures of the region are included in the process of management of the region infrastructure the sphere of ensuring normal activity of the population of the region. It claims, for example, decisions on formation of the common property complexes capable to create a cost independently in addition possessing investment appeal (Korchagin, 2011; Shirin et al., 2014).

For the research of characteristics of an intensive type of the reproduction process in the regional economy Kerefov (2011) offers a methodology of the identification of dominating trends of regional reproduction tendencies on the basis of the production function and a comparison of the socio-economic indexes expressed in incomparable measure units.

The widely used method of values transfer of a set  $X$  in a value of an index which are on a piece from 0 to 1, which are calculated using the formula (1), allows to solve this problem:

$$I(x) = \frac{x - \min(X)}{\max(X) - \min(X)} \quad (1)$$

Where,  $I(x)$  – A value of the counted index for each value from a great number  $X$ ;  $\min(X)$  – The minimal level of an indicator using which the index is calculated;  $\max(X)$  - The maximal level of an indicator using which the index is calculated.

Along with it, Kerefov in his research suggests (Polyakova and Simarova, 2014; Kerefov, 2011) in addition to analyze characteristics of the reproduction process in the regional economic space connected with the calculation of aggregated indicators. For this purpose the author recommends to use statistical methods, as a result of what there are the indicators and indexes reflecting not only the summary characteristic of the current level of development, for example, of the production capital or labor sources, but also considering change of a set of these indicators during any period.

As a result there are the aggregated indexes on the basis of which it is possible to make a comparison of the development level of the economic space of various territories to the development level of some reproduction factors. It has allowed determining the integrated indexes according to the joint groups of indicators, to conduct a correlation and regression analysis and to find a character of communications between reproduction factors and consequences. Thus, the most widespread way of the establishment of correlation communication between the sizes expressed in the unconditional indicators is the application of Pearson's coefficient. Nevertheless, the formula for the calculation of Pearson's coefficient assumes only a normal distributive number of the analyzed sizes that is not always convenient. Therefore, Kerefov has used the analog of this formula received by means of mathematical transformations:

$$r = \frac{n \times \sum_{i=1}^n (x_i \times y_i) - (\sum_{i=1}^n x_i \times \sum_{i=1}^n y_i)}{\sqrt{(n \times \sum_{i=1}^n x_i^2 - (\sum_{i=1}^n x_i)^2) \times (n \times \sum_{i=1}^n y_i^2 - (\sum_{i=1}^n y_i)^2)}} \quad (2)$$

Dertishnikova in her research suggests (Dertishnikova, 2010) to use a variation coefficient as the tool of an assessment of the reproduction process intensity in the regional economic space (Formula 3):

$$V_i^t = \frac{1}{x_i^t} \sqrt{\frac{1}{N} \times \sum_{r=1}^N x_{i,r}^t - \bar{x}_i^t} \quad (3)$$

Where,  $V_i^t$  - A variation coefficient of  $i$  figure in  $t$  year;  
 $x_i^t$  - An average value of  $i$  figure in the Russian Federation (or in the federal district) in  $t$  year;  
 $x_{i,r}^t$  - A value of  $i$  figure in  $r$  region in  $t$  year;  
 $N$  - A number of regions.

A variation coefficient allows judging a degree of uniformity of the studied set of objects: Less than 17% - absolutely uniform; 17-33% - enough uniform; 35-40% - insufficiently uniform; 40-60% - considerably non-uniform set; more than 60% - absolutely non-uniform.

In the other research, the author Polyakova (2011), Kutaev (2014) specifies that it is possible to consider positive change of the population's perception of the living environment, the social and economic space quality as the result of the intensive reproduction process in the regional economic space. On the basis of the author's methodology Polyakova has conducted a poll of the population (Polyakova, 2011 and Sadkov, 2001). A methodology assumes the calculation of a complex indicator with the specifying private indexes (Table 1).

It should be noted that one of the main question is a choice of criteria of the quality of the economic (social) space. Those, which most fully recreate spatial multidimensionality, were chosen as the main ones. As a result of the received dynamic ranks the private indexes ( $I_j$ ) which are determined by each of the considered indicators as a difference of a sum of "+" (positive) and average estimates "-" (negative) estimates (the formula 4):

$$I_j = \sum_{i=1}^1 (P - N) \quad (4)$$

Where  $I_j$  - A private index;  
 $j$  - A serial number of the answer;  
 $n$  - A total number of respondents;  
 $P$  - Positive and average estimates of respondents;  
 $N$  - Negative estimates of respondents.

A value of a complex index ( $I$ ) is defined with the help of the calculation of an average value of indexes of a private character. The application of this methodical approach seems to be justified because it allows providing comparability of the answers due to the use of equilibrium scales (Gurieva, 2013).

A complex index of an assessment of the quality of the social and economic space is defined the following way:

$$I = \frac{\sum_{j=1}^k I_j}{k} \quad (5)$$

$k$  - A total number of private indexes.

On the practical level the offered methodology allows to identify negative phenomena of the public opinion found in the negative sizes of indicators of the private indexes. Such representation suggests correlating visually the discharge of the public opinion to the region of approach or removal from a parity point, however it is not optimal and cannot be accepted as a reference point of the economic space development.

Neudakhina has the same point of view defining positive tendencies not only in the economic and social sphere, but also in ecological one as the characteristics of the intensive reproduction process in the regional economy. I consider globalization processes, the negative influence of transnational corporations on certain territories because it is very important in the XXI century. For a stability assessment of the socio-ecologo-economic system of the region, the author offers the system of characteristics of separate reproduction sub processes:

- The scientific and innovative development,
- The economic sphere,
- Social characteristics of society,
- The environment state.

An integrated indicator subject to the author's methodology is calculated from the system of the listed indicators considering the correlation connection between separate indicators that the formula (6) unites:

$$U_j = \sum_{j=1}^n \left[ \frac{(x_{ij} - x_j^{(3)})}{\sigma(x_j)} \prod_{\substack{\beta=1 \\ \beta \neq j}} (1 - \gamma_{\beta i}) \right] \quad (6)$$

**Table 1: Criteria and indicators of the quality of the economic (and social) space for the creation of private indexes**

Number of the private index	Indicators of the quality of the economic (and social) space of the region	Criteria of the quality of the economic (and social) space of the region
$I_1$	The level of an income; a possibility of accumulation; satisfaction with the level of benefits and services consumption ("attributes of the middle class")	Welfare of the population
$I_2$	Prospects of promotion; the level of protection of hired workers' rights; a possibility of employment; the need for overtime work	The quality of labor life
$I_3$	Availability of cultural and entertaining services; availability of medical services; comfort of life	The quality of the social sphere
$I_4$	The criminality level; threats of a technogenic character; a character of the ecological situation	Health and safety

Where:  $U_i$  - The integrated level of stability,  
 $x_{ij}$  - The characteristic of  $j$  indicator of  $i$  region;  
 $x_j^{(э)}$  - The characteristic of the reference indicator;  
 $\gamma_{\beta i}$  - Coefficients of the pair correlation.

When determining the integrated impact of certain groups of the factors on reproduction processes in the regional economic space of the region, the given formula (6) can be presented by the formula (7):

$$U_j' = \sum_{j=1}^n \left[ \frac{(x_{ij}' - \bar{x}_j)}{\sigma(x_j)} (1 - R_j) \right] \quad (7)$$

Where,  $x_{ij}$  - The level of  $j$  indicator of  $i$  region,  
 $x_j$  - The average level of  $j$  indicator in the general data file,  
 $R_j$  - A coefficient of the pair correlation on  $j$  indicator.

The formula (7) assumes an opportunity to define controllability of processes within separate groups of the factors influencing the total value of stability of development of the socio-ecologo-economic situation of the region.

Strengthening in modern economic science of the use of a category "innovation" has allowed some researchers to apply these categories in the researches of an assessment of "innovation of the social development" and "innovation of the economy" as characteristics of an intensive type of the reproduction process in the regional economic space. Let's point out that "innovation of the social development" and "innovation of the economy," undoubtedly, are the characteristic of an intensive type of the reproduction process in the regional economic space.

However, the authors skillfully differentiate a conception "innovation of the social development" saying that it is broader than a conception "innovation of the economy" which includes innovation of the economy development; the social sphere development; the ecological sphere development that is similar to Neudakhina's point of view.

As a cumulative criterion of an assessment of the level of the social development innovation (LSDI) it is offered to use a ratio on the formula (8):

$$LSDI = \left[ (risd(T-1) / risd(T)) - 1 \right] * 100\% \quad (8)$$

Where, LSDI - the level of the social development innovation;  
 $risd(T-1) = \frac{RISD(T-1)}{IHDC(T-1)}$  - resource intensity of the social development (consumption of resources on a unit of the index of the harmonious development of civilization (IHDC) in the basic period;  
 $risd(T) = \frac{RISD(T)}{IHDC(T)}$  - resource intensity of the social development in the analyzed period.

In general, an offered approach can become the basis for the improvement of statistics and planning of the innovative activity

as characteristics of the reproduction process as a result of the economic space development of the region.

Altynbayeva expresses her interesting opinion. Speaking about the fact that the growth of any enterprise market value (capitalization) is a result of its activity, Altynbayeva also extrapolates the similar purpose on the economic space of the region as quasicorporation. A possibility of the similar statement is defined by the globalization activation as a result of which the economic space of regions and their production trade enterprises become subjects of the reproduction process and the international (interregional) division of labor. Such actions intensify ensuring mobility of assets and their profitability in the system of global operations exchanges that is a necessary circumstance of the formation of growth points in the polarized economic space, the increasing competitiveness of the economic space of regions and ensuring steady formation and development of regional entities. Actions of regional authorities have to be directed on the solution of questions concerning the increasing cost of assets of the economic space of regions, and also the increasing social and investment appeal of the territory. Capitalization of assets of the economic space of regions is understood as a cost of material and intangible assets of commercial enterprises which can be profitable and based in scales of the territorial localized system. Capitalization of assets is defined as a sum of predicted cash flows of the economic space of the region discounted to the current period of time subject to revealed risks of functioning. When determining annual cash flows of the economic space of the region the indicators of a balanced financial result of the activity of production trade enterprises of the region, depreciation charges, dynamics of current assets and debt obligations, the amount of investments into fixed assets are considered.

A set of added values created by production trade enterprises in scales of the territorial localized system will create the gross regional product (GRP) which reproduces overall effectiveness of the economic space of the region. To determine the level of capitalization of assets of the territory as the sum of the future GRP during the unlimited period of time led to the present moment is offered by the formula (9):

$$K^r = \sum_{j=1}^n \frac{GRPi_j}{(1+r)^j} \quad (9)$$

Where,  $K_r$  - The size of capitalization of assets of the region;  
 $GRPi_j$  - The predicted and planned GRP in  $i$  future period;  
 $1/(1+r)$  - A discounting coefficient.

The sustainable spatial and economic development of the region is treated as a type of forward dynamics of organizational (Neudakhina, 2011; Altynbaev, 2012), economic and social characteristics of the regional territory state which is defined by the quality synchronous increase of a financial and labor innovative, production and technological, investment potential of the territory and capitalization of its assets that is a kind of a priority condition of the intensive spatial and economic development of the region.

Analyzing directions of Altynbayev's work it is possible to say that the identical research foreshortening of Shchetinina's (2006)



work. Now there were conducted many researches in the field of productions placement which form a course of the applied use of theory of the spatial economy.

However, a difference of metric (formulating features of the relation of spatial elements, the sequence and quantitative regularities of these relations) and topological (multilevelness, coherence, etc.) qualities of the economic space is possible.

Shchetinina's (2006) research specifies that the main characteristics of the economic space development are the following:

- Coherence (conditions of mobility of goods [services]) production, the capital and labor formation, intensity of economic relations between parts and elements of the economic space established by the development of communication and transport networks);
- Density (the GRP volume, a number of the population, the fixed capital, concentration of natural resources, etc. on a territory unit);
- Placement (indicators of distribution of the population and the economic activity, differentiation, uniformity, concentration, including the existence of territories of the certain region developed and undeveloped by a man).

Subject to the aim of Shchetinina's work and from the position of an analysis of the region in two-unity of its status, as a spatial localized way of the organization of meso-level elements of the national economy and as an "entering" part of the common economic space of the Russian Federation (Lavrovskii, 1999), the author suggests to use the system of indicators based on the groups of indicators which Figure 1 presents (Shchetinina, 2006; Lavrovskii, 1999). It is possible to receive the general indicators of consequences of the reproduction process in the regional economic space as a result of the development and realization of an interindustry balance.

GRP is the major economic indicator characterizing the results of goods and services production in a certain territory according to the system of national accounts.

In the process of the growing spatial and economic development of territories of the region the last result mostly depends on links of the whole system and also interindustry, intra-branch and regional communications and the use of material conditions of the region. The questions of management of the spatial and economic development of territories of the region in the turned-out market conditions of the Russian Federation gain great importance. It is connected with prospects of the growth of production scales, the formation and development of its specializations, cooperation and concentration against uncountable and not always successful

efforts of overcoming of the results of long crisis in the spatial and economic development of the Russian Federation. The solution for the formed circumstance is possible when moving the control center of adoption of concrete economic decisions at the regional level that will allow forming and developing purposefully new elements and connections in the structure of the spatial and economic development of territories of the region, most effectively to use its material conditions. The use of material conditions of the spatial and economic development of the region is necessary for the development of innovative branches, new equipment with the increasing labor productivity and the growth of a standard of living of the population of the region.

### 3. CONCLUDING REMARKS

Summing up the research results it should be noted that in modern economic science, it is possible to say, that researchers' opinions are various in understanding of this category. However, in the complex of the researches Alayev, Nekrasov, Dobrynin and others claim that the region is the localized, large territory of the country, and at the same time the subject of the Russian Federation which is characterized by the unity of the high-quality and quantitative reproduction process. Foreign authors James and Martin, Harskhorn and others surely add to a definition of "region" the characteristic of the political system, the administrative regulation and uniformity of the social and economic structure of the chosen territory.

Classical understanding of the factors of production is: Labor, ground, capital. It is possible to note that the classics underwent insignificant changes, mostly transformations. Modern scientists allocate economic, social, institutional, innovative, globalization factors of the spatial and economic development that is important, the economic space possesses properties fractality, heterogeneity, self-organization. Density, placement and coherence of elements of the space are the main characteristics of the economic space.

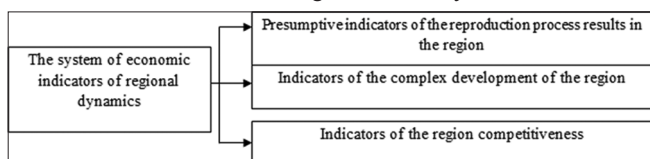
In modern conditions of managing "competitiveness of the region" in competition for investment resources has significant importance possessing the most attractive, social and economic characteristics and an image of the safe territory, the administration of this or that region can count on investors' special attention and the money inflow for the further spatial and economic development of territories.

Native researchers suggest to estimate the level of the innovative activity of the spatial and economic development of regions (and their economies) using various indicators and indexes of the spatial and economic development. However, there is no common accepted way for a definition of the spatial and economic development and like the reproduction process in the regional economic space. This circumstance adds a scientific interest in the studied problem, specifically, in finding of the optimal structure of an assessment of the spatial and economic development of certain territories.

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**Figure 1:** The system of economic indicators characterizing dynamics in the regional economy



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# Modeling of Network Mechanisms of Management in the Conditions of Organizational Development

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## ABSTRACT

In this article, the organization is considered as open system, which due to virtualization of economy has an expansion of information and economic space. The information technologies applied in management of the enterprise allow to transform its organizational structure to a network form. Therefore, the organization gains new qualities not comparable to its previous traditional form of existence: Management of the organization improve, there is a flexible reconfiguration of all resources of the company, its flexibility and adaptability to external and internal problems increases, competitiveness increases. The set of components of the virtual organization and features of its management has been analysed. Authors have developed the priorities valuation technique for the management decision on choosing the business model for the organization on the networking electronic market.

**Keywords:** Competitiveness, Meta-Market, Business Model

**JEL Classifications:** M21, O10

## 1. INTRODUCTION

The success of the organization depends in a decisive way on external forces acting in a global external environment. In today's difficult world for effective implementation of administrative functions, it is necessary to understand action of these external variables.

Today's changes in the outside world force you to pay greater attention to the environment. The organization as open system depends on the outside world concerning deliveries of resources, energy, stuff, and consumers. As the survival of the organization depends on the management, the manager is obliged to be able to reveal essential factors in an environment, which will affect its organization.

Prompt development of telecommunication means and obviously overlooked tendencies of involvement of all management forms by enterprises economic activity of in the conditions of a common information space force to consider more fixedly the features

of the networking management form, inherent in activity of any enterprise. With transferring the economic activity into the internet, information communications become the direct economic connections providing the information movement, financial means and goods on uniform communication channels.

## 2. MAIN PART

The analysis of a market situation has shown (Yefimov and Fomenko, 2009) that the network management form for the enterprise is the come-true fact. Consequently, it is the problem of research of the management forms by the organization at integrating the business into the network electronic environment becomes a pressing problem for the economic relations subjects. This is because the use of modern information and communication systems and technologies in management of the organizations creates a number of additional benefits in competitive fight, reduces transaction expenses, increases labor productivity and provides improvement of structure of management of the enterprises (Pavlov, 2005; Parinov, 2000; Parinov, 2000).

Thus, in the conditions of network business the enterprise has an expansion of its information and economic space (Woodpeckers, 2000; Fomenko and Yefimov, 2007; Fomenko and Yefimov, 2009). The first step on this way is forming the corporate information environments. Created (as a result of embedding of information technologies in organization management) company's own and corporate information networks historically are predecessors of the global network environment. Use of information technologies will transform organizational structure of business management in the network that gives it new quality not comparable to its previous traditional form of existence. The main prize from it consists in improvement of management and as a result – the improvement of all organization resources use, in increase of its flexibility and adaptability to external and internal problems, in improvement of the made decisions quality that in turn will lead to the competitiveness increase (Kostyaev, 2002; Fomenko and Yefimov, 2009).

Features of network business mean that in case of the enterprise's unpreparedness to enter fully into the corporate environment, there is a possibility of creation of the virtual corporations united only in the internet meta-markets. Thus, the enterprise can be the participant of one actual and several virtual corporate associations, forming own information economic space.

In the virtual organizations requirements to the material and intangible assets received for ensuring production from outside change; also – to the used technologies, which have to be on-line; there is a need for network infrastructure. We will notice that any organization is dual in character since it consists of a set of both physical and virtual components. It is possible to carry traditional production factors to physical components: Work (staff of the company), territory (land), capital (buildings, equipment, and share capital). Virtual components are presented by intangible assets of the enterprise: Culture of the organization, brands, reputation of the organization, and knowledge of the employees.

Therefore, managers of the enterprises of any type have to develop the “creative” organizational form consisting of the listed set of components, which is coordinated with the purposes of the enterprise and ability of their achievement. In addition, each organization needs to define independently its own, suitable only for it, set of virtual and actual components (Karepova et al., 2015).

We will analyze a set of components of the virtual organization and their management features (Table 1). This set is not final and all-including, and can be expanded when carrying out further researches in the field of new organizational forms management.

We will examine the analyzed components in more detail:

A. Virtual coordination, unlike usual one, demands investments into technology and trainings. Employees have to be familiar with systems of virtual coordination, be able to operate the information technologies independently. The main advantages of virtual coordination may include reducing the time, costs for coordination, and increase the efficiency of the company. However, the man is a “social being,” and with a decrease in personal contacts with colleagues working on a project there

**Table 1: Features of the virtual organizations components management (developed by authors)**

Organization component	Management in the virtual organization
Activity coordination	In an every spot on the globe if there is an Internet connection; creation and maintaining of the atmosphere of trust in team, network control
Activity	The distributed production type, self-management, information and logistic nature of cooperation, the increasing role of the customer in the course of production
Innovations	Management of an innovative business model within an innovative stream of the enterprise
Motivation	Self-motivation of workers, motivation work
The relations in organizational networks	Are based on a series of agreements and mutual possession of property

may be social problems: Deteriorating attitude to partners and customers. Therefore, to improve the functioning of the team members is necessary for them to establish personal contacts at least from time to time. This will help increase the level of trust in each other and develop a spirit of team.

- B. Virtual way of integration into the business space corresponds to the distribution type of production, governance, information and logistical cooperation, the increasing role of the customer in the process of creation and production-needed products. These key success factors of virtual organizations contribute to the efficient production organization. The innovative business model originally founded a new type of manufacturing process, which allows the customer to become a co-producer of the products. Working in tandem with the consumer, virtual network creates a unique, personalized product that is “paid for” and “bought” even before its creation. Using the core competencies of partner companies one can keep technological superiority in competition with other companies in the market. The loss of competence by any virtual organization member leads to automatic replacing him or her with another market player with all the necessary qualities to fulfill the order.
- C. The innovative business model of the innovation organizational form is closely linked to the flow, which is a set of innovative projects, within which innovations are being made at various stages of the life cycle. As part of the innovation flow from the totality of partner a company belonging to the virtual network there forms the innovation chain. Moreover, a specific type of virtual enterprise can be a member of several chains. Currently, there is no need to focus innovation in one place any longer, only greater corporations can afford that now. The team working on the project can be effectively completed even by the geographically distant members, carrying out the work in the office and at home. However, the virtual work restrictions may apply (paragraph – A).
- D. The use of a single external stimulus organizational environment cannot maintain a constant interest in the work, so the content of the work to a virtual personnel must be designed in such a way that it would cause the employee the direct interest and sense of responsibility.



This can be achieved if the work is:

- Completed - the employee must submit the finished result;
  - Diverse - an employee in its operation must use different types of knowledge and skills; important both for the worker and for other people;
  - Autonomous - should ensure freedom of action in its implementation;
  - Has feedback - the work should provide the employee complete and accessible information on its implementation.
- E. Networking with suppliers and customers makes it possible to implement the “virtual supply chains,” which allows you to:
- To reduce transaction expenses of agents of a network;
  - To increase effective management of business processes of the organizations of virtual type;
  - To carry out if necessary a reconfiguration of agents in the virtual project for the fullest satisfaction of clients;
  - To raise information feedback between members of a chain.

The set of systems for creation and management of a virtual network of suppliers and customers will depend on four factors: Character of the supplier, needs of the customer, essence of the made production or the rendered service, opportunities and competences of the virtual organization.

Therefore, any virtual organization consists of a set of the physical and virtual elements supplementing each other. For this organizational form there is no problem of a “or-or” choice. The problem of a choice will consist in search of the best structure of elements allowing gaining the greatest synergetic effect at their connection. Here designing of the mixed system providing the best results in any situation has to become the purpose. Therefore, for creation of the maximum value of the virtual organization elements it is necessary to carry out a constant assessment of the available components and to understand the available requirements and possibilities of their use.

Having united in virtual corporation, the companies and the enterprises can carry out communication with headquarters, the offices, branches located in different regions and with the foreign representations through internet. In this case, internet appears as natural development of local networks of the companies. The hidden benefit from it is that there is no need for the uniform standard for internal networks if they have a lock in internet. The virtual corporation imposes much weaker organizational requirements to participants, but at the same time allows to realize all advantages of uniform IEP to business management: The closed chain of production trade operations, data of various risks to a minimum, ability to resist to monopolies in a network, collective marketing (Berezhnov, 2003; Shpolyanskaya, 2005).

Internet facilitates to the companies development of new forms of functioning and development of manufacturing execution systems that leads to receiving profit by creation of additional value to the existing products and services, and allows developing a basis for production of new products and services.

For the solution of administrative problems of advance of goods and services in the electronic market it is important to know what

this market and the audience of the internet network represents, dynamics of its development, a tendency of change of demographic structure actually is. In addition, the most important, at what measure in a network is present target audience.

Today there is a considerable tool kit of modeling on the studied subject (Shtoyer, 1982; Scherbakov See Questions of an Assessment of Economic Efficiency of Application of Internet Technologies, 2005; Skripkin, 2002; Hubayev, 2010), which modeling with use of expert methods, including the technique offered by professor Hubayev (Yefimov and Fomenko, 2007) is among.

In this article the author offers a technique according to priorities at adoption of the administrative decision on a choice of a business model of the enterprise in the network electronic market (approbation carried out on the basis of JSC BKP Energiya), which differs in sharing of expert methods and methods of multi-criteria optimization. The technique is based on the analysis of interaction structure of economic subjects and models of the business organization in the electronic network market and allows:

- To increase quality of the made decisions;
- To receive an integrated assessment of each of the considered models of the organization business – the relations in internet-space;
- To receive reference points for entry of the enterprises into network electronic business.

The author carried out the analysis of business models of integration of the enterprises (Hubayev, 1975), the most significant categories of business models, the companies and organizations in Internet were chosen as a result. All of them in a varying degree promote obtaining additional value, offer the buyer a new product or provide additional information or service along with traditional products or services, and at the prices, much lower, than at traditional approach. These are the following categories: Web site ( $S_1$ ), portal ( $S_2$ ), electronic show-window ( $S_3$ ), electronic catalog ( $S_4$ ), market concentrator ( $S_5$ ), electronic shop ( $S_6$ ), information broker ( $S_7$ ), operational broker ( $S_8$ ), aggregator ( $S_9$ ), integration of business ( $S_{10}$ ).

Each category is characterized by the parameters, which cannot be estimated precisely before the project begins being realized. Generally, at an assessment of Internet-system consider such indicators as the cost of its creation (development/acquisition) and operation, functional completeness, the interface, level of support and maintenance, scalability, shipping, safety and others.

Considering the large number of criteria for evaluating internet-systems that need to be taken into account when making management decisions to choose the means joining the company in a virtual business environment is offered to a certain set of criteria: Functionality ( $f_1$ ), costs ( $f_2$ ), the complexity of the project ( $f_3$ ), the expected effect ( $f_4$ ), the amount of lost profits ( $f_5$ ). Loss of profit is determined as the difference between the expected effects of the project and selected the best for the project. For each of

the above categories we define the values of  $f_j$ - $f_5$  by the expert values (the invited experts were business leaders and university professors holding this subject).

For the most objective group assessment of quality criteria of different e-business categories there has been chosen Delphi method (Trakhtengerts, 2009; Novikov et al., 2015). Under this method, expert survey has been carried out in several stages, during which there has been a number of iterations (experts are informed about the results of the previous stages of the survey and are offered in a number of cases to justify their opinions), which reduced fluctuations in individual responses restricts intra fluctuations (Beshelev and Gurvich, 1980; Novikov et al., 2015).

Opinion poll of nine experts was carried out in three phases (for example, Table 2 shows the results of ranking experts characteristics “The complexity of the project” after the third round of the polls). At each stage of the survey, experts have established the rank of importance for each criterion, and a significant criterion gives a higher rank (Multicriteria Optimization: Mathematical Aspects, 1989; Karepova et al., 2015). To handle these estimates the automation program of peer review “expert” has been used.

For a quantitative analysis of the degree of convergence of views of experts after each round of interviews, agreed to identify groups of experts and assess the feasibility of the completion of examination used Kemeny distance, which numerically characterizes the degree of mismatch between the rankings of experts and is calculated as follows:

$$d_{AB} = \frac{1}{2} \sum_{i=1}^m \sum_{j=1}^m |a_{ij} - b_{ij}|$$

Where,  $m$  – Number of characteristics,  $a_{ij}$  and  $b_{ij}$  – Ordering matrix elements in an initial form for experts of A and B respectively.

The mismatch matrix calculated on this formula after the third round is given in the Table 3.

The sum of the  $i$ -y elements of a line of a matrix of a mismatch corresponds to the size of a mismatch of i-go of the expert with the others. The sums of all elements of a matrix of a mismatch received after each round of poll were used as a measure of an assessment of speed of convergence of opinions of experts, and as criterion of completion of procedure of poll.

The total value of a mismatch calculated after the first round made 576. After the second and third rounds, size was equal 372 and 352 respectively. It is visible that after the second round the total value of a mismatch decreased, in comparison with the first. After the third decrease is insignificant Therefore, the decision to stop poll procedure is made.

We will construct mismatch matrixes in an initial form for different threshold values. On the received matrix of a mismatch, we will construct interrelation matrixes in an initial form for different threshold values:

$$r_{ij}^0 = \begin{cases} 1, & r_{ij} \leq e_r, \\ 0, & r_{ij} > e_r \end{cases}$$

Where,  $e_r$  - Threshold value. Columns, constructed on an interrelation matrix, it is presented in Figure 1 and shows that we managed to receive enough consensus of experts (Table 4).

By consideration of basic data, it becomes obvious that before us there is a multi-criteria task. At a choice of the decision function on several criteria it is necessary to create the vector criterion function of  $F$ , which is monotonously depending on criteria of  $f_1, f_2, \dots, f_5$ . This procedure is called folding of criteria. We will use the most often used additive convolution of criteria. Thus, the additive criterion can be presented as follows:

$$F = \sum w_i f_i, \text{ для } i = 1, 2, \dots, 5,$$

**Table 2: Results of poll of experts after the third round**

Category	Experts								Total	
	A	B	C	D	E	F	G	H		I
$S_1$	1	1	1	1	1	1	1	1	1	9
$S_2$	3	4	3	3	2	3	3	4	2	27
$S_3$	2	2	2	2	3	2	2	2	3	20
$S_4$	4	3	4	4	4	4	4	3	4	34
$S_5$	5	6	6	5	5	5	6	5	6	49
$S_6$	9	10	9	9	10	10	10	10	10	87
$S_7$	6	5	5	6	6	6	5	6	5	50
$S_8$	7	8	7	7	7	7	7	7	8	65
$S_9$	8	7	8	8	8	8	8	9	7	71
$S_{10}$	10	9	10	10	9	9	9	8	9	83

**Table 3: Matrix of a mismatch of experts after the third round**

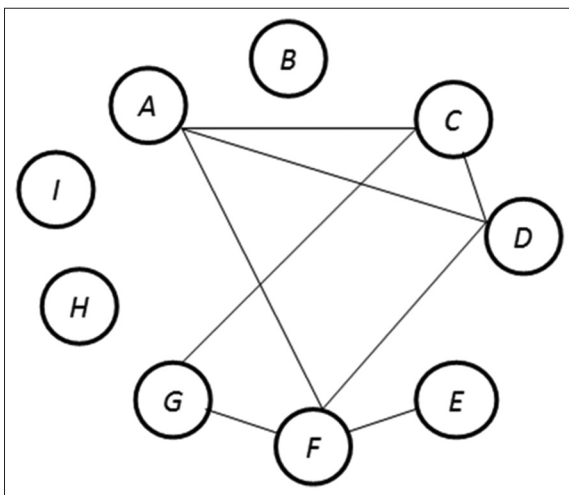
Experts	A	B	C	D	E	F	G	H	I	Total
A	0	8	2	0	4	2	4	6	8	34
B	8	0	6	8	8	6	4	6	4	50
C	2	6	0	2	6	4	2	8	6	36
D	0	8	2	0	4	2	4	6	8	34
E	4	8	6	4	0	2	4	6	4	38
F	2	6	4	2	2	0	2	4	6	28
G	4	4	2	4	4	2	0	6	4	30
H	6	6	8	6	6	4	6	0	10	52
I	8	4	6	8	4	6	4	10	0	50
Total										352

**Table 4: Matrix of experts interrelation in an initial form**

Experts	A	B	C	D	E	F	G	H	I
A	1	0	1	1	0	1	0	0	0
B	0	1	0	0	0	0	0	0	0
C	1	0	1	1	0	0	1	0	0
D	1	0	1	1	0	1	0	0	0
E	0	0	0	0	1	1	0	0	0
F	1	0	0	1	1	1	1	0	0
G	0	0	1	0	0	1	1	0	0
H	0	0	0	0	0	0	0	1	0
I	0	0	0	0	0	0	0	0	1

**Table 5: The normalized values of criteria**

Category	Functionality, $f_1'$	Expenses, $f_2'$	Complexity of the project, $f_3'$	The expected effect, $f_4'$	The size of the missed benefit,
$S_1$	0.000	1.000	1.000	0.000	0.000
$S_2$	0.111	0.959	0.769	0.093	0.093
$S_3$	0.235	0.797	0.859	0.120	0.120
$S_4$	0.333	0.716	0.679	0.227	0.227
$S_5$	0.432	0.568	0.487	0.373	0.373
$S_6$	0.852	0.081	0.000	1.000	1.000
$S_7$	0.568	0.419	0.474	0.560	0.560
$S_8$	0.691	0.338	0.282	0.627	0.627
$S_9$	0.778	0.189	0.205	0.733	0.733
$S_{10}$	1.000	0.000	0.051	0.867	0.867
Calculated weights	0.201	0.190	0.200	0.186	0.223
Expert weight	0.300	0.250	0.100	0.200	0.150
Optimum weight	0.300	0.250	0.200	0.125	0.125

**Figure 1: Count of interrelation of opinions of experts**

Where the sizes  $w_i$  are the weight coefficients defining degree of preference (importance) of one criterion in relation to another ( $\sum w_i = 1$ , for  $i = 1, 2, \dots, 5$ ).

If the problem is solved on a maximum, local criteria need to be normalized. For criteria, which are maximized ( $f_1$ , of  $f_4$ ), normalization is carried out on a formula:  $f_i' = (f_i - f_i^-) / (f_i^+ - f_i^-)$ , где  $f_i^-$  and  $f_i^+$  – minimum and maximum of each criterion respectively. For criteria, which are minimized ( $f_2, f_3, f_5$ ), normalization is carried out on a formula:  $f_i' = (f_i^+ - f_i) / (f_i^+ - f_i^-)$  [21]. The normalized values of criteria are given in Table 5.

For equivalent criteria for which it is impossible to establish a priority on importance, values of weight coefficients of chosen as identical. For unequal criteria for which it is possible to establish a priority on importance, values of weight coefficients are chosen according to importance of criterion.

We will consider three options of purpose of weight coefficients. The first option – settlement for what the dispersion coefficient is determined by each criterion of  $\delta_i = (f_i^+ - f_i^-) / f_i^+$ , which determines the greatest possible deviation by  $i$ -mu to private criterion.

**Table 6: Results of calculation of criterion function on categories**

Category	1 option	2 option	3 option	The categories sorted by decrease		
				1 option	2 option	3 option
$S_1$	0.390	0.350	0.450	$S_6$	$S_6$	$S_{10}$
$S_2$	0.390	0.383	0.450	$S_{10}$	$S_{10}$	$S_6$
$S_3$	0.411	0.398	0.471	$S_9$	$S_9$	$S_7$
$S_4$	0.415	0.426	0.472	$S_7$	$S_8$	$S_9$
$S_5$	0.417	0.451	0.462	$S_8$	$S_7$	$S_8$
$S_6$	0.522	0.626	0.526	$S_5$	$S_5$	$S_4$
$S_7$	0.477	0.519	0.510	$S_4$	$S_4$	$S_3$
$S_8$	0.470	0.539	0.505	$S_3$	$S_3$	$S_5$
$S_9$	0.480	0.558	0.505	$S_1$	$S_2$	$S_2$
$S_{10}$	0.502	0.608	0.527	$S_2$	$S_1$	$S_1$
Total	4.474	4.858	4.878			

And then the weight coefficient by each criterion from calculation is appointed  $w_i = \delta_i / \sum \delta_i$  ( $i = 1, 2, \dots, 5$ ). The second option – establishment of weight coefficients of criteria in the expert way. The third option – finding of optimum values of weight coefficients. This option alters statement of the main objective of multi-criteria optimization a little.

As well as earlier, the general criterion of optimization  $F$  by finding of values of weight coefficients of criteria of  $w_i$  at the following restrictions is maximized:

$$\begin{aligned} \sum w_i &= 1, \quad i = 1, 2, \dots, 5; \\ 0,05 \leq w_i &\leq 0,3, \quad \text{для } i = 1, 4; \\ 0,05 \leq w_i &\leq 0,25 \quad \text{для } i = 2; \\ 0,05 \leq w_i &\leq 0,2, \quad \text{для } i = 3, 5; \end{aligned}$$

All options of establishment of weight coefficients are given in the bottom of Table 5 (the last three lines).

Three options (according to options of purpose of weight coefficients) of calculation of optimization criterion for each category are given in Table 6. Their optimum definition (the sum of criteria by the third option more than on the first to two) became the best option of purpose of weight coefficients in this task.

As the first five most effective models of entry of the enterprises into network business it is possible to recognize categories  $S_6$ ,  $S_{10}$ ,  $S_9$ ,  $S_8$  and  $S_7$ .

### 3. CONCLUDING REMARKS

Based on the above we can draw the following conclusions:

1. Today the market - is a virtual exchange of values on the web-site. The modern economy contains a complex network of interacting markets and related exchange processes. The emergence of the network community from the macro level to the micro level puts the company management task adaptation of business processes and technology to the new conditions and the definition of true innovation and investment policies. On the one hand, the new information technologies prove that a market system still contain a lot of reserves, is not demanded even in countries with a long market tradition. On the other hand, they create fundamentally new economic conditions, bringing economic activity (from production to marketing of products) in a new network environment, which acquires properties that are different from the market economy
2. To estimate the cost of entering parameters and producers in the network business the multi-criteria calculation has been made, which allows you to get an integrated assessment of each of the above categories of business - processes. The calculation results are reference points for the entry of manufacturers in electronic business network.

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# Tourism Education in the Tourism Industry as a Key to Competitiveness

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## ABSTRACT

Over recent decades, tourism development in most countries has become an ultimately favored and viable area of business and commerce. Travel and tourism industry is seen both as a highly profitable option for investment, and a solid source of new jobs and national income. These advantages of tourism are considerably stronger than benefits of other economic activities. Tourism is also an agent in good-neighborly relations of peoples and nations, which is a very important role in the modern context. The article shares outcomes of a strengths, weaknesses, opportunities, threats analysis of the current system of tourism higher education in Russia by presenting a structured assessment of the situation, findings of the survey regarding tourism employer's satisfaction with the graduates' higher education quality in the services and tourism fields. Results of the criteria-based quality assessment of the graduates' higher education quality, and the list of most significant criteria for benchmarking graduates' higher education quality and employers' needs.

**Keywords:** Education Quality Assessment, Tourism, Hotel Business

**JEL Classifications:** L83, Z32

## 1. INTRODUCTION

In spite of international and economic challenges, tourism features its usual positive dynamics. Thus, according to the United Nations World Tourism Organization (UNWTO) overview, international tourist arrivals reached 1,138 million in the year 2014, a 4.7% increase over the previous year. For 2015, UNWTO forecasts international tourism to grow by 3.4% (Komissiya UNWTO dla Evropy, <http://www.dtxqtq4w60xqpw.cloudfront.net>).

However, Russia, despite its rich resources of culture, history, nature and climate, has not yet advanced to a decent place in the structure of international tourist flows, and for many years, it has experienced the tourism BOP deficit (Table 1).

The tourism BOP deficit is severely damaging to the Russian economy. It also impedes world public access to Russia's rich cultural, historical and natural potential. The reasons are largely associated with the underdeveloped and hardly competitive state

of the Russian tourism industry, basically and at large due to the insufficient professionalism of staff.

## 2. REFERENCE TO BACKGROUND SOURCES

While conducting research in the field of quality development of tourism higher education, and on issues of tourism industry interaction with tourism education, we relied on some previous research reports and concepts in the field of professional tourism education (Jafari, Ritchie, Tribe, Kvartalnov, Fedulin, Petrun, Saharchuk, etc.).

## 3. METHODOLOGY AND MATERIALS

While writing this article, we conducted desk research of scientific papers, teaching observations, expert assessments, surveys, statistical data. The subjects of our research have been tourism

higher education graduates, assessed by employers according to a set of criteria suggested by us. As part of our inquiry, we have designed a surveillance program which integrated our survey questionnaires and our mailing list. In our survey we used a method of online questionnaires.

To promote feedback, we designed a form with questions asking employers to specify their satisfaction with the graduates' education quality by a number of criteria. The same form has also helped to identify the employers' choice of most valuable criteria for graduates' quality assessment. The above-mentioned form was published as an interactive web interface allowing filling out and save answers on-line. Thus, we surveyed top-management and mid-management staff of companies in tourism and service. All their answers were saved in a database on the server of the web page. The results of the survey were compiled in a table for further statistical analysis. Processing of data was performed by statistical methods (Minashkin, 2012). Quality assessments allowed to benchmark average, maximum and minimum values, tolerance and frequency of particular answers. The most frequent answers and the most valuable criteria of assessment were identified.

Statistical data provided non-biased, relevant, complete information about employers' satisfaction with the quality of graduates' education in various fields pertaining to service and tourism domain. At further stage of research this information allowed to draw the scientifically substantiated conclusions about the graduates' education quality and efficiency of interaction between universities and employers in tourism.

#### 4. RESULTS AND CONSIDERATIONS

Back in 1996 at a conference in Madrid, the WTO, while addressing issues of tourism human resources development in the 21<sup>st</sup> century, set forward the following recommendations:

- Every stakeholder in tourism should give priority to the development of its human resources.
- Education and training of human resources should be recognized as the foundation for development of tourism professions.
- New education and training paradigms, that are most reflexive to changing environments, should be encouraged.
- Common standards, certification, accreditation should be developed both in support of the existing academic programs, and to guide new education and training systems.
- New technologies and information systems should be integrated in tourism education and training.
- A wealth of tourism components should be reflected in education to the maximum.
- Quality and professionalism should be recognized as essential features of education and service (Educating the Educators in Tourism, 1996; Nikolaeva et al., 2015).

To meet such a challenge, the first major step in our country was made along the EU TACIS/9510 EDRUS project of Strengthening of Tourism Human Resources in Russia. One of the main outcomes of the project was the profound design of the "Professional Requirements (Occupational Standards) for Tourism Professionals."

Occupational standards were developed by a joint task force of Russian and international experts, with reference to advanced European requirements and Russian specifics. Furthermore, the project resulted in a revision of Russian tourism education quality with reference to international trends (Romanova, 2012).

It was stated that tourism education in Russia was lagging behind international experience and tourism industry real needs. These two challenges still apply to current situation. Success of academic programs for tourism human resources will depend much on integration of educational establishments into international academic realm. This integration is important due to the fact, that many European nations had started development of their tourism schools into a network 40-50 years earlier than Russia, and they launched research projects in tourism education. As a result, they have advanced far ahead (Fedulin, 2004).

In the meanwhile, advance of integration and academic mobility is slow. Nevertheless, there are some success stories. One of them has been the TEMPUS project called NETOUR: Network For Excellence In Tourism Through Organizations and Universities In Russia, project edition 2015. It has contributed into competitiveness of Russian education a new textbook "Tourism in Russia: A Management Handbook." This manual was written by a team of researchers from 6 countries: Spain, France, Russia, Great Britain, Ireland, and Finland. They put together their research and methodological insights and designed a textbook which corresponds to international requirements (Tourism in Russia: A Management Handbook. Management Handbook, 2015).

In a real world, educational programs are expected to meet the changing needs of employers, new technologies, and alternative forms of service (Sakharchuk et al., 2013). For these reasons, Russian tourism education is tasked to upgrade further to the 4<sup>th</sup> edition of standards that would increasingly reflect on international experience and the changing environment of tourism industry. This new tourism educational standard will need to comply with the following requirements:

- To be consistent with goals and objectives of tourism industry, which is now one of the top priority sectors of the national economy.
- To provide training of highly qualified personnel, both for businesses, and for national, regional and local tourism regulators, authorities and administrations.
- To consider experience of the best international tourism education establishments and requirements of the UNWTO set for tourism higher education.

**Table 1: Outbound and inbound travel in the Russian Federation in years 2014-2015 (thousands of trips)**

Trips	2014	2015		
		1 <sup>st</sup> quarter	1 <sup>st</sup> ½ year	9 months
Inbound tourist arrivals	25438.0	7347.1	16112.9	24948.2
Outbound tourist departures	45888.9	6529.8	16435.1	n/a

Compiled from the official web records of the Federal Agency for Tourism (Statisticheskoye pokazateli, <http://www.russiatourism.ru>)

- To offer training in accordance with professional standards.
- To reflect tourism industry trends and needs of national regulators in qualified tourism professionals.
- To take into account best domestic practices in education and training of qualified personnel in other professional fields.
- To get rid of drawbacks inherent in the current system of tourism higher education.

The quality of a higher education system is determined by its ability to provide knowledge, skills, competences, that are adequate to modern industry-specific occupational standards, as well as take into account their dynamics, goals and realistic prospects for economic and technical development. They should remain relevant for a long time. Importance of this requirement is justified by the dynamic development of enterprises and sectors in tourism industry as a result of the growing demand for tourism services, tourism technical development, and tourism infrastructure development.

National educational standards and the national education system play a significant role in the development of tourism industry, if they correspond to the modern level of requirements generated by companies, and meet the goals and objectives of the development of these companies and tourism industry as a whole.

The starting point in the revision and development of the new educational standard should be a situation analysis of the existing system of tourism higher education, to identify its compliance on the basis of the strengths, weaknesses, opportunities, threats analysis. The results of our analysis are presented below in Table 2.

The following weaknesses and threats are the most vivid challenges for designers of education draft standards.

1. Inconsistency of many academic programs with the established across the world requirements expressed by employers' in tourism.
2. Many universities offer typically low quality academic programs in the field of modern tourism-related technologies, tourism and entrepreneurship law, management, economics and finance.
3. Discredited reputation of tourism higher education, due to the irregular market of fee-based education programs, targeted at potential entrants with weak general academic background.
4. There are virtually no Master degree programs for staff of national bodies in charge of regulations for tourism business.

The above-mentioned issues need to be considered when developing and introducing a new educational standard. Of all the concerns, the main one is associated with the discredited reputation of tourism higher education, due to malpractice of many private universities and local branches of state universities.

This challenge is due to the intensely growing demand for tourism education products and emergence of the profit-seeking market of education services. On the one hand, the growth of the market of tourist services, optional classification of accommodation facilities have prompted increasing demand for tourism education in general, and tourism higher education in particular. On the other hand, the inadequate salaries paid to professors and teaching

staff in higher education, as well as the general insufficiency of funding allocated from the national budget to higher education establishments, have forced universities to seek opportunities for earning money. This is often done by means of programs of tourism education and training.

By our estimations, 410 state and non-state universities (and their branches) offer programs in the field of Tourism and Service, which is roughly 25% of the total number of universities in Russia. However, in spite of this, Russian tourism and services do not demonstrate higher rates of growth.

No doubt, development of any economic field depends, beyond human resources issues, on many more institutional conditions and material and technical aspects. However, we should note, that Russian tourism nowadays suffers from inconsistencies between the quality and structure of human resources development, and tourism industry needs in human resources.

The gap between what tourism business expects from the academic background of graduates of tourism higher education, and what the graduates really display as professional competencies, is usually described in words "irrelevance" and "lack of practical skills." However, there are so many tourism experts, so many definitions and interpretations.

We could explain the discord by the fact that the tourism industry in the name of its biggest players and professional communities has not developed yet distinct requirements towards the nature and quality of top-level tourism professional competencies. Occupational standards for this sphere are only emerging, and their scope is very narrow. That is why there is an urgent need in the development of an extended detailed list of requirements for top-level tourism professional qualifications for real tourism business.

We performed a survey to determine employers' satisfaction with the graduates' education and training quality in the field of tourism and service, and we identified the most important criteria for personnel selection in tourism industry (Table 3).

Over a 100 executives of different tourism and service companies were surveyed.

Outcomes of the criteria-based survey are presented in Figure 1 below:

Analysis of the criteria-based survey results showed that, on average, employers are by 80% satisfied with the quality of the graduates' competencies (Figure 1). The highest scores were granted to the following criteria (Table 4).

The lowest scores were awarded to the graduates' education and training quality with reference to the following criteria (Table 5).

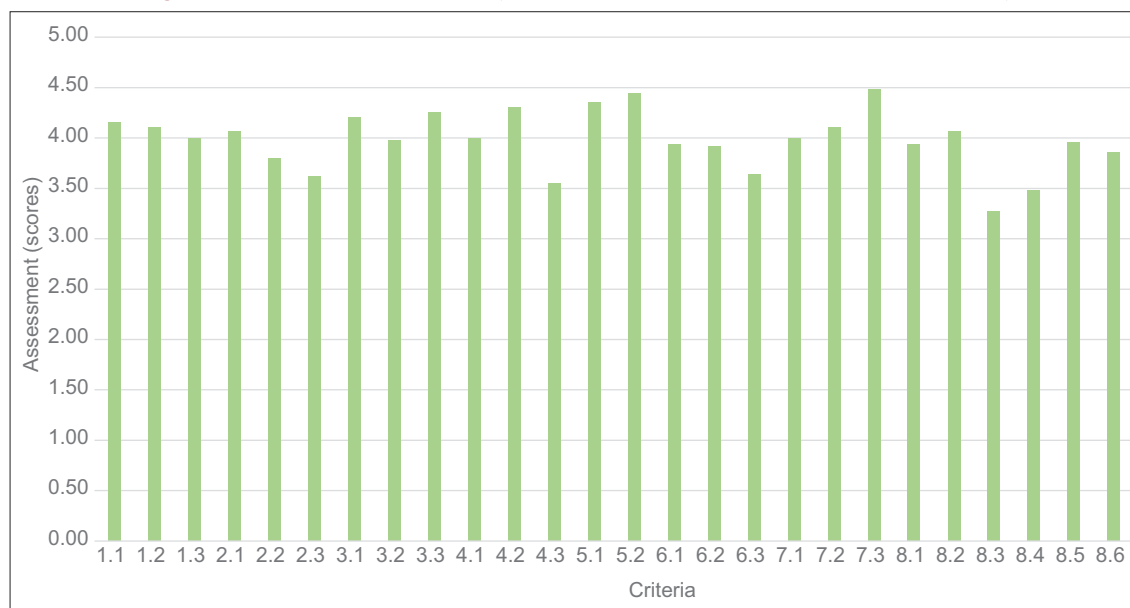
The outcomes of graduates' education and training quality assessment are split by criteria clusters as follows (Table 6).

The survey data show that the highest scores were awarded to the

**Table 2: SWOT analysis of the existing tourist training system**

Strengths	Weaknesses
A clear trend of consistently growing demand for professional higher education graduates who are apt for jobs in business and in national bodies governing and regulating tourism	Lack of a unified national strategy for training professionals with tourism higher professional education both for business, and for national authorities regulating tourism business development
Consistent high public demand for tourism education and training services	Inconsistency of the training programs available in world tourism to training requirements for tourism industry
Intensive development of commercial services in tourism education	Insufficient quality of training in the field of Modern Tourism-related Technologies, Tourism and Entrepreneurship Law, Management, Economics and Finance
	Insufficient quality of practical training, due to its insufficient share in the curricula
	Shortage of teaching staff with professional tourism experience and advanced theoretical education background
	Shortage and poor quality of textbooks and manuals in many universities
	In many universities, the practical components complementing theoretical courses do not help to develop practical skills of theory application
	Lack of proper facilities and material resources for practical trainings at a large number of universities
	Lack of proper training in foreign languages at many universities
Opportunities	Threats
Development and introduction of the 4 <sup>th</sup> edition of new educational standards increasingly tailored to the employers' needs	Weak and too often formalistic interaction of educational institutions with employers
Harmonization of educational standards and programs with the requirements of the UN WTO and with consideration of the advanced international practices	Discredited reputation of tourism higher education, due to the irregular market of fee-based education programs, offered by the majority of profit-seeking and marginal universities
Development of unified standardized practice-oriented programs	Devaluation of Ruble against US Dollar and Euro, which impedes the development of academic mobility of teaching staff and students
Development of unified professional development programs	Predominance of focus on social services field in human resources education and training disciplines, and the shortage of disciplines focused on business development competencies, as well as the shortage of practical skills development methods
Opening of postgraduate and doctoral teacher training programs for teachers of tourism professional higher education, with their compulsory internships abroad	Demotivation of most employers and tourism venue owners to invest in staff training
Introduction of a mandatory 6-month international internship inside Master degree programs	

SWOT: Strengths, weaknesses, opportunities, threats, WTO: World Tourism Organization

**Figure 1: Criteria-based assessment (vertical scale - assessment, horizontal scale - criteria)**

following competences of graduates: Discipline and diligence, loyalty to corporate culture (Figure 2).

The lowest scores were awarded to additional competences of graduates (non-core) and practical training quality.



**Table 3: Graduates' education and training quality assessment criteria**

No	Criteria
1	Satisfaction with the quality of academic education of graduates
1.1	Relevance of theoretical instruction to current trends
1.2	Relevance of theoretical knowledge to qualification awarded
1.3	Aptitude to apply theoretical knowledge in professional activities
2	Satisfaction with the quality of practical training of graduates
2.1	Relevance of practical skills to current trends
2.2	Degree to which the acquired skills are applicable in practice
2.3	Aptitude to apply skills in unusual situations
3	Satisfaction with the graduates' aptitude to adapt to the work environment
3.1	Speed of adaptation
3.2	Stress-resistance
3.3	Aptitude to recover
4	Satisfaction with the graduates' communication competencies
4.1	Aptitude to work in a customer service and a customer consulting zone
4.2	Aptitude to work in a team, to display tolerance to social, ethnic, faith and cultural differences
4.3	Aptitude to organize work of the team and take decisions
5	Satisfaction with the graduates' discipline and efficiency
5.1	Execution of job responsibilities
5.2	Compliance with corporate norms and on-job discipline
6	Satisfaction with the graduates' aptitude to self-education
6.1	Ambitions for self-education, professional development and career growth
6.2	Aptitude to independent development of knowledge and practical skills required for excellence in professional operations
6.3	Ability for abstract reasoning, analysis, synthesis
7	Satisfaction with the graduates' corporate culture
7.1	Maturity of the corporate culture
7.2	Pro-active attitude to corporate culture
7.3	Ability to maintain good relations with colleagues
8	Satisfaction with the graduates' additional (non-core) competencies
8.1	Compliance with advanced service standards, application of innovative methods and technologies
8.2	Computer literacy, IT skills
8.3	Aptitude to operate in international professional environment
8.4	Legal and economic awareness
8.5	Aptitude to subordinate personal interests to the consumer benefits and corporate interests
8.6	Aptitude to creative, unusual and innovative approaches to professional challenges

**Table 4: The quality criteria that earned the highest scores**

No	Criteria	Scores
7.3	Ability to maintain good relations with colleagues	4.48
5.2	Compliance with corporate norms and on-job discipline	4.44
5.1	Execution of job responsibilities	4.347
4.2	Aptitude to work in a team, to display tolerance to social, ethnic, faith and cultural differences	4.3
3.3	Aptitude to recover	4.25

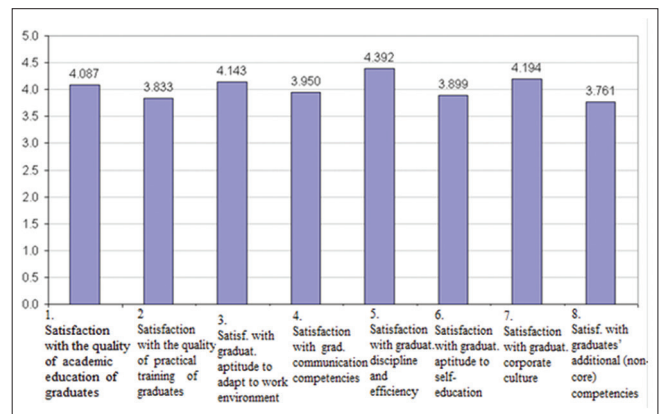
When designing educational programs, it is also important to consider the value of criteria for graduates' education and training quality assessment from the point of view of employers. To this end, they were asked to select the most valuable criteria within each cluster. Their opinion is presented in Table 7.

**Table 5: The quality criteria that earned the worst scores**

No	Criteria	Scores
8.3	Aptitude to operate in international professional environment	3.265
8.4	Legal and economic awareness	3.48
4.3	Aptitude to organize work of the team and take decisions	3.55
2.3	Aptitude to apply skills in unusual situations	3.62
2.2	Degree to which the acquired skills are applicable in practice	3.796

**Table 6: Quality of graduates' academic competencies, scores by criteria clusters**

No	Criteria	Scores
5	Satisfaction with the graduates' discipline and efficiency	4.392
7	Satisfaction with the graduates' corporate culture	4.194
3	Satisfaction with the graduates' aptitude to adapt to the work environment	4.143
1	Satisfaction with the quality of academic education of graduates	4.087
4	Satisfaction with the graduates' communication competencies	3.95
6	Satisfaction with the graduates' aptitude to self-education	3.899
2	Satisfaction with the quality of practical training of graduates	3.833
8	Satisfaction with the graduates' additional (non-core) competencies	3.761

**Figure 2: Quality of graduates' academic competences, scores summed up by criteria clusters**

The table shows that in the first criteria cluster "satisfaction with the quality of academic education of graduates," the vast majority of employers - 82% - indicated criterion 1.3 "Aptitude to apply theoretical knowledge in professional activities" as the most important one (Table 6).

In the second criteria cluster "satisfaction with the quality of practical training of graduates," the most important criterion 2.3 "aptitude to apply skills in unusual situations" was chosen by 48% of employers, the second most important criterion 2.2 "degree to which the acquired skills are applicable in practice" was selected by 34% of employers. As criteria 2.2 and 2.3 received low scores

**Table 7: Value scores awarded to criteria**

No	Criteria	Respondents, (%)
1	Satisfaction with the quality of academic education of graduates	
1.1	Aptitude to apply theoretical knowledge in professional activities	82
1.2	Relevance of theoretical knowledge to qualification awarded	12
1.3	Relevance of theoretical instruction to current trends	6
2	Satisfaction with the quality of practical training of graduates	
2.1	Relevance of practical skills to current trends	18
2.2	Degree to which the acquired skills are applicable in practice	34
2.3	Aptitude to apply skills in unusual situations	48
3	Satisfaction with the graduates' aptitude to adapt to the work environment	
3.1	Speed of adaptation	34
3.2	Stress-resistance	56
3.3	Aptitude to recover	10
4	Satisfaction with the graduates' communication competencies	
4.1	Aptitude to work in a customer service and a customer consulting zone	36
4.2	Aptitude to work in a team, to display tolerance to social, ethnic, faith and cultural differences	28
4.3	Aptitude to organize work of the team and take decisions	32
5	Satisfaction with the graduates' discipline and efficiency	
5.1	Execution of job responsibilities	64
5.2	Compliance with corporate norms and on-job discipline	34
6	Satisfaction with the graduates' aptitude to self-education	
6.1	Ambitions for self-education, professional development and career growth	36
6.2	Aptitude to independent development of knowledge and practical skills required for excellence in professional operations	48
6.3	Ability for abstract reasoning, analysis, synthesis	16
7	Satisfaction with the graduates' corporate culture	
7.1	Maturity of the corporate culture	12
7.2	Pro-active attitude to corporate culture	36
7.3	Ability to maintain good relations with colleagues	52
8	Satisfaction with the graduates' additional (non-core) competencies	
8.1	Compliance with advanced service standards, application of innovative methods and technologies	22
8.2	Computer literacy, IT skills	14
8.3	Aptitude to operate in international professional environment	2
8.4	Legal and economic awareness	22
8.5	Aptitude to subordinate personal interests to the consumer benefits and corporate interests	24
8.6	Aptitude to creative, unusual and innovative approaches to professional challenges	14

from employers (Table 4), employers are not satisfied with the quality of graduates' practical training.

The third criteria cluster "satisfaction with the graduates' aptitude to adapt to the work environment" features as the most important one criterion 3.2 "stress-resistance" chosen by 56% of employers, the second most important criterion is 3.1 "speed of adaptation" chosen by 34% of employers.

In the fourth criteria cluster "satisfaction with the graduates' communication competencies" no single criterion was identified as the most important, as the scores granted to the cluster criteria value are just slightly different. The highest scores granted by 36% of employers went to criterion 4.1 "aptitude to work in a customer service and a customer consulting zone," the second most important criterion was 4.3 "aptitude to organize work of the team and take decisions" chosen by 32% employers.

The fifth group of criteria "satisfaction with the graduates' discipline and efficiency" featured criterion 5.1 "execution of job responsibilities" as the most important one chosen by 64% of employers.

The sixth group of criteria "satisfaction with the graduates' aptitude to self-education" feature criterion 6.2 "aptitude to

independent development of knowledge and practical skills required for excellence in professional operations" as the most important one chosen by 48% of employers, and the second most important one was criterion 6.1 "ambitions for self-education, professional development and career growth," chosen by 36% of employers.

The seventh group criteria "satisfaction with the graduates' corporate culture" featured the most important criterion 7.3 "ability to maintain good relations with colleagues" chosen by 52% of employers, the second most important criterion 7.2 "pro-active attitude to corporate culture" was chosen by 36% of employers.

The 8<sup>th</sup> group "satisfaction with the graduates' additional (non-core) competencies" featured criterion 8.5 "aptitude to subordinate personal interests to the consumer benefits and corporate interests" as the most important one chosen by 24% of employers, followed by two other criteria - 8.1 "compliance with advanced service standards, application of innovative methods and technologies" and 8.4 "legal and economic awareness" that earned appreciations of similar shares of employers - 22% each. Criterion 8.4 received low ratings that indicate the unsatisfied employers' expectations regarding the graduates' legal and economic awareness.

It should also be noted that most employers, when recruiting graduates, do not give preference to graduates of certain universities, according to 62% of responses; 36% of employers prefer to employ graduates of certain universities.

## 5. CONCLUSION

Tourism education is an important factor in the competitiveness of the tourist business. However, the tourist business actively affects competitiveness of educational establishments, since it as a consumer of human resources, generates demand for graduates and consistently provides assessment of the quality of their academic background.

Due to the fact that there are continuing changes in technology of management and service, there is a need in changing the content of educational programs. Competitiveness of the graduates and the quality of education depend on promptly universities respond to these changes. Hence, an important role is given to a well-established flow of feedback, which is maintained through surveys of employers.

The work describes outcomes of one of the online surveys of top-level and middle managers at tourism and service companies, who provided their assessment of the quality of graduates' academic background. The survey revealed that when a five-point grading scale is used, the average scores range between 3.796 and 4.48 points. The highest scores are awarded to the following competencies: Ability to maintain good relations with colleagues, compliance with corporate norms and on-job discipline, aptitude to work in a team, to display tolerance to social, ethnic, faith and cultural differences and others.

The lowest scores were awarded to the following criteria: Aptitude to operate in international professional environment, possession of legal and economic awareness; aptitude to organize work of the team and take decisions.

Integrated analysis shows that this group of managers estimated that the weakest competences of the graduates they have employed are their aptitude to independent development of knowledge and practical skills, the mastery of practical skills and their additional competences.

Employers participating in the survey also highlighted the most important selection criteria for them graduates when hiring:

- Aptitude to apply theoretical knowledge in professional activities (82% of respondents).

- Execution of job responsibilities (64%).
- Stress-resistance (56%).

In general, such research should be continuing and serve as a guiding tool in the design of educational curricula, textbooks, teaching materials, methods and training methods.

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## **Psychological Bases of Formation of Key Economical Information Technology Specialist Competencies of Higher Education**

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### **ABSTRACT**

The article presents the economic and social changes in society related to computerization and the inclusion of new economical information technologies in all spheres of life that pose new challenges with respect to the determination of the content of economical-technological preparation of the future economist at the institute, as well as the psychological aspects of the formation of the key information and economical-technological competence at the Institute in stages starting with the creation of his project. The article analyzes the literature on the subject, set forth the means and methods of educational process at different levels, the conditions and the content of education specialist of the profile elements and levels of formation of key information technology competencies opinion on the appropriateness and necessity of the use of new information technologies as a means of improving the quality of learning process.

**Keywords:** Psychology, Economical-technological Competence, Information-technological Competence

**JEL Classifications:** A20, H70, I20

### **1. INTRODUCTION**

At the present stage of social development of psycho-pedagogical practice shows that there are now purposefully organized forms of professional training of future economists are no longer able to cover the whole range of problems that arise in the practice of the specialists of economic profile. Therefore, the search for new scientific approaches to the design and implementation of preparation of economists in higher education is needed. One of the most effective methods for solving this problem, many scientists believes the formation of key information technology skills.

By the psychological component of professional information technology competencies include the development of professional thinking on the basis of individual abilities of the student as well as his motivation and will. It is obvious that in the thinking of high school graduate should be unity of common cultural and professional competences. The graduate should be ready not

only to show the knowledge and skills, but also to be able to true conclusions.

Establishing a single global economic, social and cultural space - is an objective reality of the modern world. Today, computers are taking over the role of the World Bank and the information of the mobile communication means. The society is in the process of rapid development and use of computer technology in all spheres of activity. It manifests itself in key areas such as the economy, education, medicine and industry. Computerization of all spheres of activity entails the need to acquire the ability to quickly obtain, retain, transfer information and skill to use it in their professional activities. Formation of key information technology competencies of the future economists in the Institute is based on the "introduction of the institution of the education system of information tools based on microprocessor technology, as well as information products and educational technologies based on these products" (Vorobiev, 2002; Muenks et al., 2015).



The process of formation of key competencies of information technology begins with the creation of his project. At this stage of development of science design was applied not only in the traditional areas of designers, architects, builders, but also in the psychological and educational activities. Hence it appeared in the psychological and pedagogical practice a new term “design and training activities.” The term is borrowed from abroad, it is a scientific basis for the project method, which is widely used in the US, UK and is currently gaining popularity in our country.

Economic and social changes in society related to computerization and the inclusion of new information technologies in all spheres of life, create new challenges with respect to the determination of the content of economical-technological preparation of the future economist at the Institute. Among these problems are the following:

- Preparation of specialists in economics with the skills (experience) to work with your computer and relevant software.
- Formation key information technology competencies of the future economists in higher education.
- Increase the efficiency and quality of training of graduates of Institute on the basis of new information technologies in education.

## 2. LITERATURE REVIEW

Determining the content of the information technology training involved many researchers (Vorobiev, 2002; Neier and Zayer, 2015). In our research we try to determine the content of the information - technological preparation of the future economist at the institute, and evaluate the effectiveness of use of the new information technology to form the key information - technological competencies. Babansky defined the content of the training as “management, which is organized on the basis of a comprehensive accounting laws, principles of teaching, modern forms and methods of teaching, as well as the features of the system, its internal and external environment in order to achieve the most effective (within the optimal) process performance in terms of predetermined criteria” (Babansky, 1984; Wiese and Sherman, 2010).

Thus, the need is clearly seen in the definition of educational technology mechanism that would facilitate the approximation content-economical-technological preparation of the future economist to a given higher education GEF result. According to most scientists, such educational technologies should be based on the use of computer technology, new computer programs, which are called new information technologies in education.

The main difference of the new information technologies in education to other psychological and pedagogical technologies is the ability to use methods, techniques, methods and means of computer technology for information on the academic disciplines. With regard to information technology in teaching D. Sh. Matros wrote: “Since learning is a transfer student information and information technology - a process associated with the processing of information, it can be concluded that in teaching information

technology is always used. Moreover, any technique or pedagogical technologies describe how to process and transmit the information so that it is best assimilated by students, i.e., any pedagogical technology - an information technology” (Matros, 1996).

We share the view expressed, for example, in studies of Starichenko and Ivanova that the new information technology education - is “a set of organizational forms of pedagogical techniques and technologies of management of educational process based on the use of modern computer and telecommunications systems and ensuring the achievement of educational standards adopted by the mass of students” (Starichenko, 1995).

Thus, information technology education includes the means and methods of educational process at different levels, the conditions and the content of education, as well as computer equipment. Under our information technology education is a combination of conditions, techniques, methods and tools targeting teacher learner, which will contribute to the formation of key information technology skills required for the future practice of the specialty.

## 3. METHODS AND MATERIALS

Thus, information technology education includes the means and methods of educational process at different levels, the conditions and the content of education, as well as computer equipment. Under our information technology education is a combination of conditions, techniques, methods and tools targeting teacher learner, which will contribute to the formation of key information technology skills required for the future practice of the specialty.

The primary means of information technology advocates computer. By means of new information technologies of education also include local area networks; terminal equipment; input devices and manipulating information; means archiving information; means for converting the graphics or audio information to digital and vice versa; modern communication systems; software packages, etc. You can also select a special group means - information technology processing of text, graphics, sound, numeric data and a variety of other information resources, which are used by means of software applications and tools (programming languages).

Inclusion of new information technologies in educational process allows the teacher and the student to carry out the following actions:

- To carry out rapid access to domestic and foreign sources of information (libraries, scientific and educational centers, and others).
- Saves large amounts of information.
- Improves the speed of collecting and processing information about pedagogic processes, phenomena and objects.
- Simulate the pedagogical phenomenon.
- Quickly disseminate and implement the results of research in a broad pedagogical practice.

Many scientific studies (Vorobiev, 2002; Matros, 1996) Noted active interaction of students with the means of the new information technologies. It contributes to the development of visual-figurative, visual-motor and other types of thinking; aesthetic education

by means of multimedia technologies and computer graphics; and Development Board communicative abilities and cognitive activity; Formation of professional competence, i.e., correctly skills quickly and make a decision in a difficult situation, the use of various software products.

The business games the new information technologies contribute to the development of skills to carry out creative, research, autonomy of action. There is a consensus on the desirability and necessity of the use of new information technologies as a means of improving the quality of the learning process. It should be noted that the content of economical-technological preparation of the future economist at the Institute in contradiction with the level of readiness of teachers to use information technology tools in the educational activity. Results ascertaining experiment showed that only 27% of teachers of the respondents are ready to use the computer and information technology in teaching students; 45% - are experiencing difficulties, and 25% - cannot cope alone with the computer. Most teachers (82%) would like to improve their level of information culture and agree on the usefulness of computer use in the educational process.

Considering the content of economical-technological preparation of the future economist at the Institute, it is necessary to pay special attention to the organization of individual and independent work of students using a computer. When students use computer technology as a tool to solve the educational problem, they need to consider all possible options to solve the problem in complex situations, to study the theory and technology of the submission of new information. Posing students independent tasks aimed at solving the real problem of future economic activity, the teacher engages them in the process of obtaining new knowledge is subjective. This contributes to a better understanding and lasting assimilation of knowledge, not just memorization of information received from the teacher.

A high level of formation of key information technology competencies future economist suggests the following qualities:

1. Fully aware of the personal meaning and significance of the economics profession.
2. Improves the individual and socio-cultural experience. He is able to accumulate social experience, study and disseminate the experience of others.
3. Has the ability to creatively solve problems in practice, it generates entrepreneurial ideas.
4. In practice, dominated by the originality and creativity.
5. pronounced analytical and reflexive skills, economic intuition, positive emotional orientation, determination, energy, initiative, independence in economic decision-making.
6. Mostly creative level of formation of a positive image of a specialist.

#### 4. RESULTS AND DISCUSSION

The content of the information technology training at the Institute is directed to the formation of key information - technical competence of the graduate in economics, and includes the following elements:

- Information - technological knowledge is a theoretical and methodological basis for the formation of key competences of future specialist economic profile.
- Specialist skills that make it suitable for the implementation of professional and economic activity.
- Emotional and value attitude to information technology activities in the field of economy.
- Personal experience of information technology operations when dealing with economic information.

The content of information and economical-technological knowledge graduate Institute of Economic specialties are:

1. The fundamental concepts of computer science (information model, algorithm, software, computer, etc.).
2. Theoretical questions related to the representation, transmission, storage and processing of information by computer.
3. The general principles of the structure and operation of the equipment and computer software.
4. Knowledge of the appointment, the application, the universal principles of the information and computer technologies, their functionality, disadvantages and methods of their use for professional economic objectives.
5. The theoretical questions related to the construction and use of databases, the use of computer graphics.
6. Knowledge of the principles of work of basic computer units.
7. Knowledge of the structure and content of economic disciplines.
8. Knowledge of the processing technology of economic material.
9. Knowledge of the capabilities of modern computer technology in the field of automation of accounting and economic analysis, and others.

Information technology skills of the future economist, formed at the Institute, should include:

1. Organizational, informational, design, skills, necessary for the implementation of economic activities with the use of information technology.
2. The ability to migrate information technology knowledge from one sphere of economic activity to another.
3. The ability to find the relationship between the various objects of economic activity.
4. The ability to use information systems of economic content, as well as software products for solving specific economic problems.
5. The ability to use local and global networks for the efficient processing of information necessary for professional tasks.

Personal experience of economical-technological preparation of the future economist includes:

1. The experience of using computer technology and other information tools.
2. Experience in assessing the prospects of development of information technologies for predicting its future activities.
3. The experience of studying the latest achievements in the field of information technology.
4. The experience of an objective analysis of their professional capabilities, identify ways of their development, and others.

For the formation of these elements are present, the information technology specialist training in economics, in addition to studying the theoretical course, must also be a requirement for laboratory works with a PC and software packages, create a database and access of students to a variety of online information sources, including the Internet. Performing laboratory practice, students gain and fix knowledge and skills to work with information that contributes to the formation of key information - technological competencies required of future specialists.

State, federal educational standards 080100 "Economics," 080200 "Management," 080400 "Human Resources," 080500 "Business Informatics" require future bachelors of mastering the following general professional skills: To present, discuss and effectively defend the opinion in formal and informal settings, in writing and orally; listen and perceive analytically written information, including the perception of cultural and linguistic differences; to seek, receive, organize, execute and use written information in oral, print and electronic sources. Educational activity is a complex volitional psycho-pedagogical process involves several stages:

- A sense of purpose and commitment to achieve it
- Identifying opportunities to achieve the goals
- Development of motives
- Determination of the trajectory of the implementation of decisions taken.

The formation of these skills will greatly contribute to the mastery of new information technologies.

In forming the core competencies of information technology must take into account the fact that an expert in economics should know (Kobersy et al., 2015):

- At least three types of information data processing systems
- Autonomous mini computer system and a local network system
- How to access and search data in online databases
- How to use e-mail, text-program, the program matrix calculations, databases and - Packages, at least - one of the accounting (accounting) program.

As a result of psycho-pedagogical process of formation of key competencies of information technology professionals in their levels can be distinguished of formation (Table 1).

## 5. CONCLUSION

Innovative processes in the economy in the last decade stimulated in Russian society, the development of skills needs at all levels in the field of economy, capable of practical creativity, initiative, enterprising, ready to solve non-standard problems, problems and objectively analyzing the supply and demand in the market economy.

**Table 1: The level of formation of professional competence**

Stages	Levels	The components of professional competence			
		Content-evaluative	Motivational and volitional	Socio-cultural	Professional and personal
I stage	I level	Based on the basic knowledge of their professional activities to take possession of skills	Develop motivation to assimilate knowledge	Conscious perception of knowledge as a means of intellectual development	The development of the perception of the need for professional knowledge
	II level	To digest and process the information	Possess the motivation of mastering and processing of knowledge	Acquire knowledge, develop intellectually	Develops the need for treatment and the assimilation of information
	III level	Develop the ability to update the knowledge of the use of information technologies	Forming convictions update their knowledge using information technology	Update knowledge, increasing your intelligence	Develops need to update professional knowledge
II stage	I level	Develop the ability to use knowledge in solving professional problems	They know how to evaluate the knowledge and use them in solving professional problems	Aware of the social importance of knowledge	Have a constant need to improve the professional knowledge
	II level	Develop skills in the use of knowledge in practice	They know how to apply the knowledge in practice	Aware of the relationship of professional work with the world	Able to process and absorb professional knowledge and apply them in practice
	III level	Possess skills analytical approach to the application of knowledge in practice	They have a need to identify analytical skills, setting goals in solving professional problems	Apply knowledge, taking into account the surrounding social and cultural environment	Develop a continuing need to update professional knowledge
III stage	I level	They learn the skills of creative research expertise, their processing using PC and perception	Develop motivation to master the skills of creativity and perception of knowledge using computers	Apply a creative approach to knowledge, taking into account the social needs of the community	They know how a creative approach to professional activities
	II level	Learn the skills of creative approach in finding, processing, development and use of knowledge in practice	Develop awakening creativity of solving professional problems in practice	They know how to be creative in the use of knowledge, taking into account the environmental social and cultural environment	Exercise creativity in constant updating of knowledge

Training future economist includes economic and information technology knowledge and skills. The content of the information technology training should contribute to the formation of key competencies of information technology in higher education, aimed at increasing the knowledge and skills of the future expert to use hardware and software of new information technologies. Technological preparation in vocational training, according to Churkin: "It shall ensure students' understanding of the variety of processes and bringing them to the common technical basis; to the concentration of the various production processes in the single technological complex, and as a conclusion: The concept of form that objective combination of different specialties, requires different skills and knowledge at the same employees, the production of a wide profile, high technical culture" (Churkin, 1998). This definition for we have very important economic relationship, information and technological components, as well as the objectives of technological preparation in the form of key information technology skills.

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## **The Economic Space in the Region: The Theoretical Approaches to the Study**

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### **ABSTRACT**

Modern Russia as a federal state is inseparably linked with the overcoming of spatial disparities and economic development, regional features in achieving common strategic objectives; spatial disparities and economic development of its regions due to the presence or absence of mineral resources, highly qualified human capital, and the density of the industrial complex and other factors. Uneven spatial and economic development of regions of the Russian Federation could contribute to the growth of social tension, acceleration of migration flows and lead to unpredictable social and economic consequences. The main job of the regional economy is an objective assessment of the spatial and economic development of Russian regions, the identification of the causes of the backlog in the formation and development of some of them, as well as the development of theoretical approaches, methods and techniques of regional development and the use of their material conditions.

**Keywords:** Regional Economy, Economic Space, Industrial Complex

**JEL Classifications:** L16, P25, R11

### **1. INTRODUCTION**

Regional economics as a branch of economics is quite young. Earlier in economic theory it is not considered the regional dimension of economic development and optimization services. Modern followers of this trend does not deny the existing regional issues, but believe that these issues are of variable character and attract attention only in times of crisis and decline in production.

However, today the theory of the region's economy is based on a number of provisions, and presented in the works of Thünen, Weber, Kristallera, Lesch and Tyunen priority in analyzing the impact factor of the space on the costs and benefits, in turn, affects the specialized organizations. Weber defined the basic conditions affecting the placement of one industrial enterprise ("transport orientation," "agglomeration," "work orientation"). In his works of Kristallera, dealing first with the local position of the company,

in terms of accommodation, developed the concept of central places, thereby defining the role of agglomerations (towns) of various ranks in the formation and development of a hierarchical territorial structure of the country. Economist Regionoved A. Lesh on the basis of proposals Weber and Kristallera proposed new conceptual theory of regionalization of the economy or the economic landscape (Camacho and Martinez-Martin, 2015; Collegiate Dictionary by Brockhaus and Efron, [http://www.dic.academic.ru/dic.nsf/brokgauz\\_efron](http://www.dic.academic.ru/dic.nsf/brokgauz_efron)). We can say that today a regional science is formed, based on the works of the classical economists of the three proposed areas:

- "Locating or placement," which concentrates on the definition of the most expedient locations of future business.
- "Regional," seeking to find the best size and structure of the economy of the region under study.
- "Complex," seeking to link the unified theory of localization and regional issues of economy.

## 2. THE MAIN PART

The study of regional bases of economic development in Russia of the first half of the XIX century, and due to the political and economic success of the country, the growth of Russia's borders in the East, the Black Sea region, the introduction of its membership Poland and Finland. It is also important that trade on new remote paths comes to willingly and Black Seas enters the oases of Central Asia and the deep mountain valleys of the Caucasus. In the middle of the XVIII century, it eliminates internal customs. In Russia, there are banks. This period is connected with the appearance of the first experience of economic regionalization of Russia and first works, containing economic and geographic characteristics of all areas of the country (Prigogine, 2001; Allen and Sanglier, 1978; Allen and Sanglier, 1981). Of particular importance was the first experience of isolation of ten "spaces" (districts) Russia Arsenyev in 1818.

Ogarev in the article "On the New Year - 1861," published in "The Bells," proposed to divide the Russian state in the area of "industrial" and "geographical" and the condition of the peoples inhabiting Russia. Ogarev justifies the allocation of specific areas in the European part of Russia ten areas: The White Sea; Baltic; Belarusian; Lithuania; "It is the vital or central Great;" Ural; Caspian; Don Cossacks, Little Russia, New Russia. In justifying the selection of these areas, Ogarev noted increasingly scarce (Garcia and Pargament, 2015; Prigogine, 2001; Allen and Sanglier, 1978; Allen and Sanglier, 1981):

- White Sea region highlighted "geographic location and industrial interest, the same farming due to climatic conditions and equal distribution."
- Baltic region created "by natural conditions," but "the Germans will have to comply with the general requirements and give land to the peasants."
- Belarusian and Lithuanian region allocated, taking into account their peoples.
- "High Blood or Great Russia" - taking into account the population and "the same industrial, mostly factory and interests."
- Ural region - in view of the Ural population settlements "around the Kama River and the Ural Zavolzhja."
- Caspian region - taking into account the "same interest" of the population in connection with the "steppe economy" and "transit location between the Trans-Caspian and Trans-Caucasus Asia and the rest of Russia."
- "Don Cossacks, Little Russia and New Russia, together or separately form one or three Black Sea region."

Drawing attention to Siberia, Nikolai Ogarev pointed out that it should be divided into a number of areas "... towards the Pacific Ocean." Poland researcher left aside, pointing out that she had to self-determination.

In the second half of the XIX century, in Russia began to show sharp differences between industrial and agricultural areas with different types of capitalist evolution, between the and urbs and the colonial metropolis. During this period, there was a problem in-depth study of vast areas, particularly new areas of capitalist

agriculture (Siberia, east of the Volga, the North Caucasus, the Steppe Ukraine).

Further development of regional approaches to the study of Russia led to the release of a comparatively fractional areas; analysis of differences in the rate, magnitude and nature of the economic "maturation" of the country from point to point, which became more acute with each decade; identify reasons decline of farms in some areas, in particular the center of Black Earth, Urals. The study of these issues is inextricably linked with the name Semenov-Tyan-Shan. In 1880 he published his major work, "Statistics of landed property and localities of European Russia," dedicated to the central agricultural area that Semenov-Tyan-Shan knew. In this work, he singled out the European part of Russia the following economic areas: The extreme northern; Lakeside; Baltic; Moscow industry; Central farming; Priuralsky; Lower Volga; Little Russia; Novorossiysk; South-West; Belarusian; Lithuania (Mishchenko, 2002; Shkurkin et al., 2015).

Zoning, prevailing by 1880 so true to recreate the real economic situation, which has been used in science and, in particular, in the statistics up to 20-ies of XX century., i.e., until the grid areas of Gosplan.

A significant achievement Semenov-Tyan-Shan division by regions of European Russia in 1880 is the allocation of the Central Industrial (industrial Moscow) and Central-agricultural areas and especially the Volga. Before Semenov-Tyan-Shan part of the Volga region they belong to different, zonal areas. It is worth noting that Semenov-Tyan-Shan tried in their zoning to a degree not ignore the national element, highlighting Baltic, Lithuanian, Belarusian regions, and three regions of Ukraine, different historical characteristics-Novorossiysk, Malorossiysky and Southwest.

Semenov-Tyan-Shan, spending zoning in 1880 took into account the complex formation and development of the Russian economy and the increasing attention given to agriculture, which at that time was its main industry. Characterizing the Central-farming region, he singled out four "bands:" (1) Field-wooded; (2) transition; (3) the eastern black earth poluzalezhnuyu; (4) central black soil is not fallow. The basis of the system of fractional zoning served households, taking into account local conditions (soil) (Semenov-Tyan-Shan et al., 2006; Gulácsi et al., 2014).

Mendelev, exploring the future of Russia's economic development in many studies of proposed projects and directions of development of agriculture and industry all parts of Russia. The writings of Mendelev reflected such large and valuable ideas, the development of oil production in the Donets Basin and the Caucasus, underground coal gasification, oil in the central areas, the beginning of coal mining in Siberia and the all-round development of the Urals, Arctic exploration, irrigation Trans Caspian region and the Lower Volga (Mendelev, 1893).

Mendelev drew questions geographic location of different parts of Russia and the economic evaluation of natural resources, the demographic situation in Russia, the definition of a system of indicators of the district economy. In terms of the work we select

“Factory Industry and Trade of Russia” (1893), which noted the diversity of the material conditions under different parts of Russia for the development of the industry. The base of these conditions he considers the convenience of Railways for the transport of products and raw materials, the density of the population and there is a real possibility of obtaining cheap fuel (Mendelev, 1893).

Given the combination of the conditions mentioned above Mendelev allocates economic regions’ different economic nature, grouping the province in 14 edges: (1) Central or Moscow; (2) The Baltic and St. Petersburg; (3) North; (4) East; (5) West; (6) Central Asian; (7) the Caucasus; (8) South; (9) South-West; (10) Northwest; (11) Malaysian; (12) Average grain or Black Earth; (13) Finland; (14) Polish.

An original and unusual in “Factory Industry and Trade of Russia” was the fact that, contrary to previous experience of regionalization, taking into account primarily or even exclusively agriculture zoning Mendelev came primarily from the formation and development of the industry. This position was due to the ideas of Mendelev about the necessity of rapid industrialization of Russia of those times (Mendelev, 1893).

Of particular note is characteristic of the area. They learned the material represents the most important economic area in terms of area and evaluates them from the perspective of long-term development of the industry in these areas. In addition to the descriptive part of the characteristics of the area, Mendelev developed the form of a table of economic indicators of the areas which were specified: A space in square geographical miles; the number of inhabitants in millions; the number of inhabitants per square mile; crop of cereals, in millions of pounds; pig iron, in millions of pounds a year; the number is not paying excise factories and plants; annual production capacity of factories and plants; the performance of all factories and plants per person, in rubles; productivity of cereals per person, in rubles; main products delivered to the edge; development of holiday (from the region), trade (Economic Theory. Edited by Dobrynin and Tarasevich, 2004).

In XX century, theoretical study of economic space in the region associated with the works of Aleksandrov, Baranskii, Kolosovsky, Krizhizhanovskogo, Lavrishcheva, Nekrasov, Nemchinov, Nikitin, Probst, Strumilin, Fersmana, Cherdynseva and others. A special contribution to the theory of Area and its practical applications have made major scientific research institutions - the Council for Study of Productive Forces (SOPS) of Gosplan (until 1960 - at the Academy of Sciences), the Institute of Economics and Industrial Engineering Siberian Branch of the Academy of Sciences, the Institute of Economics Academy of Sciences of the USSR, the Central Economic Research Institute of the State Planning Committee of the RSFSR, as well as a number of research scientists of the following universities: Moscow State University, LSU, NSU (Lexin and Shvetsov, 2001; Jacobs, 2015).

In the XXI century, the representatives of various schools of the regional economy offered many definitions of the term “region,” presented in Table 1. It is worth noting that the works of Russian

authors used the concept - “area” and “region,” but a clear distinction between the two terms is not given.

Exploring different views of authors in the category of “area” and “region,” you can select frequently used criteria for their definition: Geographical (location, size of territory and population); production and functionality (number of dominant activities); urban (the intensity of the development of housing and service sites of industrial activity); sociological (norms of behavior, communication). In connection with the criteria designated region as space and economic area must be considered simultaneously and as a territorial element of the organization of the national economy, and as a systemic element of the settlement, and social unification of society (Paley and Kornilova, 2014). At present, the most common definition of the content of the category of “region” is the following: It is a territorial entity in the departmental borders of the Federation, characterized by integrity, complexity, specialization and handling.

Economic aspect of the analysis of the category of “region” involves consideration of such concepts as “economic space.” The study “economic space” as a theoretical category using territorial, resource, information approach (Table 2). Area studies for a long time did not engage in the theory of economic space. It is perceived as a given, and the study of its properties, the essence of the processes taking place in it, functions and behavior of economic agents in the economic environment remained without attention of representatives of economic theory (Petraakis and Kostis, 2013).

This situation is true Nikolaenko said: “Ignoring the existence of spatial economic structures and in broader terms - spatial patterns of social and cultural nature, as well as the absolute dominance of linear time in economic theory is so massive that it cannot only be considered as a gap of one of the authors or a specific methodology.” Analysis of the personal points of view on the economic space that allows you to take three approaches: Territorial, resource and information. A study of the economic literature on the theory of economic space areas led to the conclusion that the territorial approach dominates the other.

Definition Granberg considered classics in the context of a territorial approach: “Economic space - is a rich area, accommodating a plurality of objects and the relationships between them: Settlements, industry, economic development and recreational areas, transportation and utilities and so on”. Asking Granberg characteristic an area of economic space as possible transmits the main content of a territorial approach, and is, in our opinion, the most capacious (Collegiate Dictionary by Brockhaus and Efron, [http://www.dic.academic.ru/dic.nsf/brokgauz\\_efron](http://www.dic.academic.ru/dic.nsf/brokgauz_efron)).

Extremely easy approach to the study of economic space in the region can be found in Leizerovich who understands space area, making these categories synonymous. Even poorly organized and allocating space strogoorganizovannoe under which he sees “the territory within which the relative positions of any newly emerging objects destined to previous development or set of hard rules” virtually Leizerovich does not add anything new to the determination of Granberg.

**Table 1: Study the essence of the category of “region” in the economy**

Author	The interpretation of the category of “region”
Russian authors	
Alaev	The localized area, which has unity, the interconnectedness of its constituent elements and integrity, and acts as an objective condition, and as a natural result of the economic development of the territory
Nekrasov	A large area of the country with a more or less homogeneous natural conditions and the characteristic directions of development of the productive forces on the basis of a combination of natural resources in a complex, existing material base and the production and social infrastructures
Dobrynin and Tarasevich	Geographically specialized part of the national economy, which is characterized by the unity of the reproduction process
Lexin and Shevtsov	The andject of the Russian Federation (administrative rather than economic regionalization)
Marchalov and Novoselov	The region is not only a and system of the social and economic sector of the country, but also a relatively independent part of a complete cycle of reproduction, special manifestations of stages of reproduction and specific features of the course of social and economic processes
Foreign authors	
James and Martin	Holistic land area, has some uniformity at its core, but do not have a clear borders
Grace	State and district - is a similar concept but the area cannot be regarded as administrative and political unit can only be seen as an area that is different enough characteristic features to distinguish it from its neighbors. Zoning can be done on the economic, social, ethnic and other criteria
Hartshorne	The area within which there is some degree homogeneity in the general (natural and cultural) landscape
Voufter	The area within which a combination of natural and economic factors to create a homogeneous economic and social structure

**Table 2: The content of the category of “economic space”**

Author	Determination
Territorial approach	
Granberg	A busy area, accommodating a plurality of objects and the relationships between them: Settlements, industry, economic development and recreational areas, transport and utility networks
Leizerovich	Areas within which the relative positions of any newly emerging objects destined to previous development or set of rigid rules
Kostinsky	The area has a specific set of seats obtained by combining them, the aggregation of some single base. Neighborhood well - is that necessarily stands out, singled out from the whole object
Ryansky	The area, with its general geographical criteria, which take into account the size, scope and lifetime of the taxonomic units of the geographical envelope
Resource approach	
Chekmarev	The nature of the dual EP. On the one hand EP produced by individuals and legal entities expressing economic needs and enter into economic relations, on the other - it is formed physical and nonphysical objects that are sources of economic interests and economic relations
Peftiev	The system of relations in the use of economic resources
Radaev	The totality of economic activities, which are defined as a definite link between ends and means, but also involve the special nature of the action itself. Elements of economic action: Limited resources, the possibility of an alternative use of a number of other elements
Kuchin and Lebedev	Discrete distribution ... sources of raw materials, processing companies and markets its product sales
Ya. Krukovskiy	A lot of interacting factors of different nature, give rise to fluctuations in the processes of cooperation/ division affecting the formation, operation and development of the enterprise
Castes and Haken	Information exchange and self-organization of complex systems
Information approach	
Ivanov	Formation of information flows circulating between economic entities, and they determine the structure of this space. EP - mature contractual partnership: In politics - based on the strengthening of security institutions, and the economy - by promoting the creation of a free trade zone
Syroezhkin	Information exchange between systems economic space
Parinov	Economic agents, which are defined as business entities by exchanging signals in the course of economic activity, thereby forming economic space
Krugman	Abstract economic landscape dynamic resource allocation depending on market conditions and their locations
Biyakov	Aggregate economic demand economic times, economic competition. EC has the characteristic of concentration (the ratio of the number of private economic processes included in the aggregate\economic process, the total number of individual processes carried out by an economic entity

Ryansky analyzes economic area in terms of landscape zoning for “... general geographical criteria, which take into account the size, scope and lifetime of the taxonomic units of geographic shell.” This approach adheres Baysyerkaev who argues the legitimacy of

the use of the term “economic space” in size small (down to small settlements) taxonomic units. The desire of scientists to analyze the economic space by geographic criteria, certainly meets certain targets of individual studies. But, in our opinion, in some cases,



the content of the economic space is replaced by geographical boundaries.

Kochetov proposes to consider the economic space as a unity of three components: Geopolitical, geo-economic and geo-strategic space. Judging by the examples cited by the author, the space it is understood in the context of the territorial economy at the level of individual states. A very similar approach in Valentia - territorial context linked to the former Soviet republics.

Note that many domestic economists adhere to the consideration of economic space from the perspective of government and geographical boundaries. These different works of Tsygichko, Nizhegorodtseva. According to the legitimacy of dissertation application of certain milestones in determining the economic space of the country, region, lokaliteta vesma risky.

Undoubtedly, the geographical situation and the situation substantially condition the development of both economic and social processes. Placement of production due to the relatively low level of costs incurred by business entities in finding linkages in a limited space. Such bonds are formed and developed economic area in separate territorial limits. However, it should be said that the evolution of the international community (the trend of globalization, post-globalization, the current dynamics of the European Union) and modern Russia are increasingly involves the routing of relative independence from the location factor of economic entities. Thus, a territorial approach to the consideration of economic space is a priority only in the industrial age, the development of all world community.

Resource approach to the study of economic space is characteristic of the works Radaev which considers economic space set of "economic activities," under which the Radaev understands "some connection between ends and means, but also suggests the special nature of the action itself." Among the elements of economic interaction of Radaev notes the limited resources, the potential of alternative uses and others. In his other work Radaev states: "Economic space may occur wherever people realize sustainable choices regarding use of scarce resources." From this point of view it is possible to argue, as the scientists call the "elements" of the whole individual, so it is hardly an element property, such as, for example, "limited," is called by the member.

Kuchin Ivan Lebedev and define the space as "a discrete distribution . . . . . sources of raw materials, processing companies and markets its product sales." This definition is controversial, because the authors used a not quite apt term "discrete." The authors suggest that the concentration of resources and production and processing enterprises is proportional and they are evenly distributed throughout the territory. Such a situation cannot in principle (Cebula et al., 2014; Regional Economy, [http://www.alfa2omega.ru/load/referaty/reg\\_ek/331/21-1-0-331](http://www.alfa2omega.ru/load/referaty/reg_ek/331/21-1-0-331)).

Ya. Krukovskiy determines the economic area as a "set of interacting factors of different nature, give rise to fluctuations in the processes of cooperation/separation affecting the formation, operation and development of the enterprise." In our view, the use of the category "economic space" only in the territories of the

enterprises is not fully justified. Peftiev in his writings denies the territorial approach to the region's economic space, defining the latter through a system of organizational and economic relations on the use of economic resources.

Some economists have analyzed the economic space as an area for the adoption of individual decisions on processing and use of resources of the study area. Decision-making is inherently subjective process is always based on the processing of the information available. Equate information and space is hardly true. Krugman, without formulating definitions, see space as an "abstract economic landscape dynamic resource allocation depending on market conditions and their locations."

A detailed definition of economic space of encounter in the works of Chekmareva. Under the economic space they understood space formed:

- a. Natural or legal persons (entities), which for the realization of their economic needs and expressing the needs of the economic interests enter into economic relations.
- b. Physical and non-physical objects that are sources of economic interests and economic relations.

The sources of the same economic interest (Chekmareva) perform economic resources. The approach of the scientist is quite original and interesting. However, here we have the implicit or explicit attempts to equate individuals and entities that, but we think wrongly. Undoubtedly, the individual indirectly involved in the economic process, but only the part that is related to the exchange of results obtained in the course of the economic process - we are talking about produced goods: Products, services, knowledge (Kobersy et al., 2014; Regional Economy, [http://www.alfa2omega.ru/load/referaty/reg\\_ek/331/21-1-0-331](http://www.alfa2omega.ru/load/referaty/reg_ek/331/21-1-0-331)).

In our opinion, the resource approach to the determination of the content of economic space methodologically flawed, because it assumes dimension to the redistribution of resources, which have access to business entities. Thus there is a substitution of the object to which the action directed entities. Above we noted that as the object of interaction of subjects serves the economic process. In an economy such as the key to industrial development was really the most effective way to convert existing resources. In modern realities of the post-industrial society such condition appears effective use of human capital accumulated knowledge. In the post-industrial society with the type of economic resources in their traditional form they are no longer prime-element of the economic process. This shift is characterized by a transition to a different paradigm of which is not based on energy, and information.

Information approach to the definition of economic space has been developed only in the last decade, which explains the absence of sufficiently clear alternative positions within this area. The essence of the approach lies in the interpretation of economic space through the information component of the economic process.

Ivanov believes that economic space is formed by information flows circulating between economic entities, and they determine the structure of this space.

In separate papers by Syroezhin pays considerable attention to the exchange of information between elements of the economic system. According to Parinova, economic entities, which are defined as all those same economic agents, exchanging signals in the course of economic activity, form this economic space. Through the flow of information determines the economic space Shibusawa - "economic space can be interpreted as a kind of commercial part of the Internet, through which manages the flow of manufactured goods."

Of considered above approaches to determining the economic space of the informational approach is the most appropriate. Indeed, at the level of the subject of managing its interaction with economic space through the outer (with respect to the subject) transactions in the form of information exchange and integration into the overall information flow. In the author's interpretation of the economic space - the interaction between economic entities in the overall economic process for the formation of the possible results of economic activity.

### 3. CONCLUSION

To summarize, we note the value of the economic space in the region as the seat of economic activity, natural resources, communications and education systems, national cultures increases in social progress. The economic environment in the region accumulate material conditions and basic knowledge generated in the course of economic development of space, form and develop markets for goods and services, as well as institutional arrangements to ensure the progress of society.

In the process of scientific and technological progress and international cooperation, economic space in the region qualitatively changed, becoming the most differentiated by function, but also more contact, accessible, concise. In times of economic and political turmoil (wars, economic crises, the collapse of) economic space in the region could lose some of their quality, fully or in part to become uninhabitable or public business. But in any case, quantitative and qualitative characteristics of the economic use of space in the region at a particular historical stage affect the sub-sequent course of using the same type of economic space in the region.

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## **Savings Banks of the Soviet Union: A Specific Form of Soviet Credit Institutions (June 1941-May 1945)**

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### **ABSTRACT**

Until now the financial activity of the Soviet state, carried out during the war between Germany and the Soviet Union (USSR) (June 1941-May 1945) was studied only fragmentarily. Thus, attentions were drawn to the financial activities of the country as a whole, while the history of such an important instrument of financial policy as a savings bank, has not been studied. Meanwhile, namely the savings bank were a link between the Soviet government and population of the country. On the basis of numerous Russian archival documents (State archive of the Russian Federation, Russian state archive of the economy, the Central state archive of St. Petersburg) for the first time was analyzed the work of savings banks of collection of funds of Soviet citizens for fighting. At that the dynamics of personnel structure of savings Bank, as well as priority areas of their work were analyzed. Attention is drawn to changes in the activity of savings bank in military terms. It is emphasized that the savings Bank were not only aimed to maximize the collection of money from the public in the interest of the state financial policy, but also cared about the interest of its clients in the use of this credit institution.

**Keywords:** Great Patriotic War, Economy, Finance, Savings Bank

**JEL Classifications:** R51, O16

### **1. INTRODUCTION**

Before the invasion of the Wehrmacht on the territory of the Soviet Union in the USSR there were five banks and one specific credit institution - savings bank. Every bank served several industries of economy, which together enabled the Central state financial control in the entire country.

Savings banks had not cooperated with state-owned enterprises, and were represented as a financial bridge between the state and Soviet people. In savings banks the inhabitants of Soviet cities and villages had their own account and signed on government loans.

### **2. LITERATURE REVIEW**

Savings banks in the period from June 1941 to May 1945 played a big role in the life of the Soviet state and of each citizen. This fact was declared, but was not studied in historiography. Only two editions, published in Russia in 2002 and 2003, drew

attention to this important circumstance. But if in the monograph "History of the Ministry of Finance of Russia" (The history of the Ministry of Finance of Russia, 2003) was paid a lot of attention to the activities of savings banks in the Soviet Union, in the publication "Military financial-economic service of Russia. History and modernity" (Military Financial-economic Service of Russia, 2003) was emphasized the relation of savings banks to the military. For these reasons, the author used numerous documents from Russian archives (State archive of the Russian Federation, Russian state archive of the economy, the Central State archive of St. Petersburg), which allowed him in the modern way to look at aspects of economic development of the Soviet Union during the war.

### **3. MATERIALS AND RESEARCH METHODS**

The analysis of historiography gave the opportunity to compare its data with archival documents, which enabled to improve the reliability of the study. The basis of the research methodology

is based on general scientific methods: Analysis, generalization, synthesis and comparison. Also historical research methods were applied: Systematic, typological, comparative, retrospective and historical periodization method.

#### 4. RESULTS

In 1938-1941 in the system of savings banks began to see a transformation aimed at increasing the number of clients. This policy was carried out due to the fact that in the private use of the population there was a lot of free money which, due to low interest rates, the population was not interested to put on their accounts. But in 1939 savings banks announced the introduction of the so-called term-deposit. The gist of it was that individuals were required to deposit money in the savings banks not >6 months. The interest rate on deposits was set at 5% per annum, which significantly exceeded all other bank interest rates. This seemingly simple measure helped to provide a substantial increase in deposits. By 21 June 1941 these deposits amounted to 6.8 billion rubles (The History of the Ministry of Finance of Russia, 2003. p. 148).

In early 1941, in the USSR acted 42831 savings banks (The history of the Ministry of Finance of Russia, 2003. p. 147). The war with Germany, 1941-1945 broke the habitual way of life of the citizens of the Soviet Union. Without changing its primary essence, the savings banks at the same time could not ignore the conditions of the beginning war. In particular, with the fact that in the second half of 1941 in connection with the mobilization into the red army, mass evacuation, disease and death from savings banks dropped nearly 90% of employees that had a great experience.

The country's leadership understood that with the beginning of the war, many citizens wish to withdraw high finances from their accounts in savings banks. To prevent this and to create conditions for the continued participation of the funds in the financial turnover, the government has taken a number of measures. The people's Commissariat of Finance of the USSR on 23 June 1941 imposed temporary restrictions on the payment of contributions in the savings bank until 22 June, i.e., before the opening of hostilities. Depositors were entitled to receive monthly from their account no more than 200 rubles.

On 26 June 1941 by the decree of the Presidium of the Supreme Soviet of the USSR have been cancelled vacations to all workers in the country. The exception was the disabled, adolescents and women who received vacation on "maternity leave". Instead of holiday the citizens received compensation for the short period of time. But on April 9, 1942 the Presidium of the Supreme Soviet of the USSR canceled the payment of this monetary compensation. In savings banks special accounts for workers that have unpaid vacation pay funds and the accrued income in the amount of 3% per annum were opened. However, to get these funds the depositors can only after the war (Central State Archive of St. Petersburg [The Central State Archive of St. Petersburg] F. 9823, p. 2). These deposits were considered as "special." Considering that during the war, were opened nearly 32000000 of such special accounts, in practice they have become an important source of financing of

military expenditures. In addition to special deposits in savings banks the so-called "winning" contributions were introduced, that also had an impact on the inflow of funds into the state budget. If from 23 June to 31 December 1941, in savings banks of the USSR entered 244200000 rubles, in 1942 it was 1331300000, and in 1943 1732100000 rub. In 1945, the total amount of citizens that were in accounts in savings banks amounted to 9000000000 rubles (Finance of the USSR for XXX years, 1947, p. 310).

At the initial stage of hostilities, the savings banks have organized their policy so that in public revenue remained as much of depositors' funds as possible. To implement it was not easy, because many savings banks that were in the combat zone, were closed. By the beginning of 1942 on the territory of the USSR remained 21406 savings banks. In fact, over the 6 months of the war their number became twice smaller than the previous. If, in the course of 1942 their number in the country has not changed, then soon after the war, to July 1, 1945, the number of savings banks in the Soviet Union began to make 28488. In the 1<sup>st</sup> month of the war the leadership of the savings banks had to solve a completely new task: They had to extend services to refugees who left their homes and settled temporarily on unoccupied enemy territories. If now successor customers of savings banks - Sberbank - thanks to modern information technology can get their contribution in any branch of this credit institution on the territory of the Russian Federation, in 1940, this was not possible. Each individual savings bank had information only on the accounts that are stored directly at it. The availability of the passbook with data of the state of contribution did not give him the right to receive cash in another savings bank. For this reason, there was a need to organize work so that the savings banks have the ability to make payments on deposits made at other offices. This was only possible in the case of a transfer of funds of population before the evacuation from their savings banks to the savings bank in locality, where the Soviet citizen supposed to be evacuated. For this reason, from June 1941 began the mass sending of transfers of deposits from one area to another, which was far away from the fighting. If in 1940 the amount of transfers of funds of depositors from one region to another was 196400000 RUB, then a year later these translations were made for the total amount of RUB 542500000 (The History of the Ministry of Finance of Russia, 2003. p. 149).

The war dictated its own terms of the relationship of savings banks with customers. There was an urgent need to simplify these relationships. On the one hand the simplification could lead to deception of employees of savings banks, which would have implied the loss. But on the other hand, to the fore was the problem of creating maximally comfortable conditions for investors getting their funds from the accounts and to perform other operations. The management of savings banks ordered to accept the savings deposits of savings banks located outside of the front strip, even if by depositors only bank books were provided. However, employees of credit institutions had been carrying out thorough testing to avoid fakes. In late 1941, when the retreat of the Wehrmacht from Moscow began, there was a new task: To interact with clients in the areas liberated from the enemy. The management of the savings banks took a calculated risk: Clients had the right to discount funds from the accounts



only upon presentation of their savings books even if the card file of one or another savings banks has not yet been returned to the place of permanent residence after evacuation. Of course, as the liberation of the Soviet territories from the enemy, the number of newly opened savings banks grew rapidly. In 1944, i.e., in the year of total expulsion of the Wehrmacht from the Soviet Union in the liberated territory was restored 2788 savings banks (Russian State Archive of Economy (RSAE). F. 7733. List 29. D. 710, p. 1).

A characteristic feature of operating of Soviet savings banks in 1941-1945 was the fact that government has assigned the work of conducting monetary and clothing lotteries on them. The lotteries were conducted by the people's Commissariat of Finance of the USSR. During the war there were four monetary clothing lotteries. Proceeds from the first and second monetary-ware lotteries in 1942 amounted to \$2953 million rubles (Russian State Archive of Economy (RSAE). F. 7733. List 28. D. 124, p. 2), although the state had expected to collect only 2400 million rubles (Russian State Archive of Economy (RSAE). F. 7733. List 27. D. 154, p. 10) (the increase amounted to 19.2%). Income to the defense fund amounted to \$5302 million rubles, whereas it was planned to get 3500 million rubles (the increase amounted to 51.7%). Income derived from state loans amounted 15276 million rubles. Altogether at the expense of the state loans, the monetary-ware lotteries and defense fund the state budget received 163975 million rubles, while the state was counting on 170200 million rubles. That is, the 1942 plan was not fulfilled by 3.6% (Russian State Archive of Economy (RSAE). F. 7733. List 27. D. 154, p. 4). The revenues of the USSR of all voluntary contributions of the population in 1942 were 14.4% (calculated by author on the basis of RSAE. F. 7733. List 28. D. 124). In 1943 income on monetary and clothing lotteries amounted to 2500 million rubles, to the defense fund - 6000 million., while the report on the state budget of the USSR in 1944 indicated the figure of 5,000 million rubles. Income derived from state loans amounted 25302 million rubles (calculated by author on the basis of RSAE. F. 7733. List 28. D. 124, p. 6). The total contribution to the revenue part of the budget for all the voluntary contributions amounted to 28377.3 million rubles, or 14.9% (calculated by Author on the Basis of RSAE. F. 7733. List 28. D. 124).

In the state budget of the USSR in 1944, it was planned to receive funds from the public on loans, deposits, and monetary and clothing lotteries in the amount of 34.6 billion rubles, 10 billion rubles, or 40% more revenue 1943. Having considered the budget for 1944, budget Commission of the Council of the Union submitted to the approval of the Supreme Soviet of the USSR a proposal to increase the budget revenues at 4010 million rubles, including the conduct of monetary clothing lotteries - 700 million rubles (State archive of the Russian Federation (SARF). F. 7523. List 15. D. 2, p. 10), since voluntary funds contributed by citizens of the Soviet Union, has always exceeded the planned figures.

Recent monetary and clothing lottery, held on 25 October 1944, culminated in the announcement of prizes on 15 March 1945. In the lottery were played 5 million winnings to the total amount of 1 billion rubles. Lottery participants could win one the lottery ticket from 100 ruble to 50 thousand ruble. In addition to cash

winnings, and there were clothing: Women's overcoat with the Astrakhan collar, gold and silver watches, wool suits for men and women, men's and women's shoes, pieces of woolen cloth for clothing and carpets. The peculiarity of the lottery tickets was that they were produced as with a face value of 25 rubles and of 50 rubles. 50 rubles lottery ticket essentially was consisted of two tickets with face value 25 ruble, and on each of them theoretically could drop the money. Although some of the lottery tickets were distributed through enterprises, institutions and even households, the main burden of distribution of tickets still fell on the shoulders of employees of savings banks. Realizing that the solvency of the population in wartime conditions was not high, the purchase of lottery tickets even in installments was assumed (Malinowskiy, Head of the Central Savings Bank of the Kirov area, 1944).

Thus, in 1944, were conducted the calculations for the third money and clothing lottery, and soon was conducted the fourth (Russian State Archive of Economy (RSAE). F. 7733. List 29. D. 710, p. 9). Receipt of funds from realization of monetary-clothing lotteries were planned in 1944 in the amount of 5,000 million ruble, actually was managed to get 5024 million rubles. The total amount of funds under the fourth money and clothing lottery amounted to 5749 million ruble. The plan on deposits of the population in 1944 amounted to 827.7 million ruble or 138% (Russian State Archive of Economy (RSAE). F. 7733. List 29. D. 710, p. 10). Special deposits, listed in the red army fund, amounted to 276677836 rubles 03 kop (Russian State Archive of Economy (RSAE). F. 7733. List 29. D. 710. p. 22).

Savings banks have become essentially financial intermediary between the Soviet state and its citizens in the conduct of state loans. Only the first 2½ of war, i.e., as of 01 January 1944 the savings banks drew on state loans and lotteries 50300000000 rubles (Russian State Archive of Economy (RSAE). F. 7733. List 29. D. 710. p. 1). According to some experts, the amount of the subscription to the state loans amounted to 89.7 billion rubles (Military Financial-Economic Service of Russia, 2003. p. 162). According to the revised data, the total subscription to government loans during the Great Patriotic war amounted to 95.2 billion rubles (The Author Calculated on the basis of RSAE. F. 7733. List 26. D. 1081; The Author Calculated on the basis of RSAE. F. 7733. List 27. D. 154; The Author Calculated on the basis of RSAE. F. 7733. List 29. D. 14; The Author Calculated on the basis of RSAE. F. 7733. List 30 b). The collection of public funds for the construction of tanks, squadrons of aircraft and other weapons for the red army, provided receipt of contributions in December 1942 in the amount of 3 billion rubles (Russian State Archive of Economy (RSAE). F. 7733. List 27. D. 154. p. 5). In 1941 the state authorities received from the public subscription, on the bonds of state loans, 7493 million rubles, representing 5% of the total revenues of the state budget of the USSR (The Author Calculated on the basis of RSAE. F. 7733. List 26. D. 1081).

An important role was played by savings banks also in the acceptance of voluntary contributions of citizens to the defense Fund. It was a separate page in the history of savings banks. Beginning in the early days of the war, this Fund by inertia continued running for some time even after May 1945. Its role

in providing financial support for the Red army and the Red fleet was huge. Interesting is information on the receipt of amounts in Fund of the Red army as of January 4, 1943 (Russian State Archive of Economy (RSAE). F.7733. List 29. D. 853. p. 1), i.e. for the period of the Fund's work - from the summer of 1941 to December of 1942. Basing from these data, we can conclude that by the beginning of 1943, the contribution of the RSFSR to the Fund amounted to 67% (Russian State Archive of Economy (RSAE). F.7733. List 29. D. 853. p. 1-2). In addition, the Fund received 90.8 kg of gold, 11.4 kg of platinum, 8301 kg of silver and other tangible assets (Russian State Archive of Economy (RSAE). F.7733. List 29. D. 853. p. 37). In April 1942, was made a certificate signed by the chief of sector of non-tax revenues Strelnikova on violations of voluntary contributions to the Fund of defense of SSSR. The document said that "despite the instructions of NKF-USSR and AII-Union Central Soviet of Trade Unions from 26.8-41, No. 669/84 about the order of deductions in Fund of defense of the USSR, the number of enterprises and organizations is violated the principle of voluntary deductions from salaries to the defense Fund" (Russian State Archive of Economy (RSAE). F.7733. List 29. D. 853. p. 118). Despite such statement, the authorities tightly controlled the heads of enterprises, organizations and institutions to subscribe to all loans and voluntary deposits held by at least 100% of the salary Fund of each worker. The competition was organized between enterprises, and the total subscriptions were published in the press. It was considered as right and honorable to subscribe to 200 and more percent of salary.

A kind of "double morality" was formed. If high-level judges heard about the violation of the principle of voluntariness in the allocation of funds to the state budget, this became the reason for criticism, and sometimes for some practical measures against the leaders of different levels. If the payout was below the set standards, the heads of the various branches were accused of ideological myopia, the inability to convey to the masses the requirements of the party providing assistance to the front. The second was much more dangerous than the first. It threatened, at a minimum, removal from office, expulsion from the party, and even criminal prosecution. So there was no doubt: The leaders preferred to "overdo" than "not do." The Soviet people were forced to give all their funds, including those that had not yet been earned. In such circumstances, the place of savings banks in the financial development of the Soviet system during the war years was even more significant.

During the war of 1941-1945 savings banks of the Soviet Union began to implement a number of cash transactions, which before, in peacetime, were not performed. They have been receiving tax payments from the population, paid various state benefits to lonely peoples and mothers who have many children, on the basis of presentation of cash certificates of family members of officers of the red army and red fleet ensures financial members of their families.

During the war significantly increased such payments, carried out by savings banks, as a monetary sum to the citizens awarded by awards and medals of the USSR (The history of the Ministry of Finance of Russia, 2003, p. 150).

The longer the war went on, the better the credit institution of the country has adapted to new conditions. Adaptation was manifested in various spheres, including the number of conducted financial operations. For example, in 1944 the savings banks of the Soviet Union have made 110,5 million operations, which was 26 million transactions more than in 1943. Of course, such development of activities of savings banks would not have been possible without continuous staff training. Although the employees of these lending institutions were called up to the front during the entire war, the level of customer service was reduced and allowed to cope with the tasks. This was largely due to a well-organized training system for savings banks. In all regions of the country there was permanent training of employees for credit institutions. Special emphasis was given on practical training of the future employees of savings banks. Only in 1944 6123 peoples graduated from such courses (Russian State Archive of Economy (RSAE). F. 7733. List 29. D. 710. p. 1).

Despite numerous successes, the work of savings banks in wartime was also present in a number of disadvantages. In particular, the work on attraction of contributions of the inhabitants of villages, who unlike the urban population were reluctant to part with their savings, did not carried out effectively. Many of them kept the money at home, in secluded places. However, these places were well known to all: As a rule, the Russian people kept the money for hanging on the walls icons which with all the discontent of the Soviet government were almost all village houses.

An important weak point of savings banks was unsatisfactory accounting of funds received and spent. In many cases this was due to insufficient staff expertise, although often it was a deliberate "entanglement" of accounting. War, unfortunately, pushed the weak and morally untrained people to commit various illegal acts, including the theft of money. There were also cases of malpractice.

As you know, in the Soviet Union its work was carried out under conditions of continuous and comprehensive planning. Was planned not only the number of issued military equipment and weapons, but also the implementation of the plan of deposits of money resources of the population in savings banks. Calculating in advance how much money potential investors can place in the coming year in savings banks, various organs of the Soviet power did everything to ensure that their plans were not only done, but exceeded. The results were often very high. For example, the implementation of the plan of contributions of citizens in savings banks in 1944, in fact, was exceeded by 38% and amounted to RUB 827700000 (Russian State Archive of Economy (RSAE). F. 7733. List 29. D. 710. p. 10).

## 5. CONCLUSION

Savings banks, as one of the forms of credit institutions, were largely a purely Soviet phenomenon. They are conceived in the context of understanding that all the multi-million working population of the Soviet Union were not rich people, but were eager as anyone to have their own account in the bank, or in a reliable lending institution that guarantees the safety of funds and a small income from the interest rate. Having no competitors, savings

banks in pre-war USSR have become extremely popular among the population and in military terms were the only “people’s bank,” through which people could solve their financial problems. Being aware of the role of savings banks in the daily lives of people, the state in time of war did everything possible to ensure that the interests of citizens in opportunities coincided with the interests of the state machines running in the victory over the Wehrmacht. That victory was due in part to Soviet credit institutions - savings banks.

## 6. ACKNOWLEDGMENT

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# The Priorities of Socio-Economic and Financial Development of the North Caucasus Federal District in the Current Geopolitical Situation

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## ABSTRACT

The aim of the research is to establish the priorities of the socio-economic and financial development of the North Caucasus macro-region within the boundaries of the federal district in the current geopolitical situation. The results of the research show in details the priorities of socio-economic and financial development of the North Caucasus Federal District in terms of import substitution and finance rationalization under the current financial crisis and international sanctions against the Russian Federation. It is a well-known fact that more than 30 nations declared this territory the area of their strategic interests. The Caucasus became the subject of so-called "pipe wars;" it also became "a buffer zone" in the distribution of the Islamic state model. We have a new strategy of working with migrants in the Islamic regions of Russia (Gabdrafikov et al., 2015). Previously, the Caucasus region has been the outcome for migrants, but today it has become to develop new models for the socio-economic attractiveness of the region (Karepova et al., 2015). Statistical, monographic, sociological methods as well as logical modelling have been used in the research.

**Keywords:** Sanctions, Strategy, Cluster, Import Substitution

**JEL Classifications:** F51, L12

## 1. INTRODUCTION

The North Caucasus has always been the region of great importance for Russia. Consequently, the Russian Empire was struggling for the whole Caucasus and for the North Caucasus in particular.

The specific features of the North Caucasus and its importance can be described in more details in the following way.

Firstly, it is a region with the most important main roads which are the shortest ways to the near and Middle East, the Black Sea, the Sea of Marmara and the Mediterranean. Secondly, the region is a potential center of petroleum development. Thirdly, it is the most important strategic base area of military presence of Russia in the South. Fourthly, it is a region with the highest density of the population. More than 140 nationalities that belong

to various linguistic groups, religions and cultures live there. In fact, it is a "testing area" for the ideas and principles of the Russian federalism. Fifthly, it is the region where the problems of the global confrontation of two world religions - Christianity and Islam - directly manifest themselves. Sixthly, the North Caucasus is a vast territory rich in natural resources that have not been explored and developed to the full extent. Seventhly, under conditions of serious demographic situation the region possesses a huge potential.

Thus, the North Caucasus is vital for Russia in geostrategic and economic sphere. The country cannot lose its base area historically gained in the confrontation with world powers as well as it cannot let the Western "ring" restraining the living space of the Russian Federation meet the "instability arc" in the South (Akinin and Jidkova, 2014). Nevertheless, nowadays the North Caucasus is viewed as an undeveloped, depressive and criminalized region.



As a respond to many problems and contradictions in the region, a new North Caucasus Federal District (NCFD) with its capital in Pyatigorsk was founded according to the Decree No. 82 of the President of the Russian Federation dated January 19, 2010. The district has its specific mission - it is a Russian outpost in the Southern and South-Western directions which represent the country's strategic interests.

It performs the function of a barrier against the expansion of the international terrorism threat, military and political adventurism and Islamic extremism along the arc of political instability running through the southern borderland. Islamic extremism uses traditional values of Muslim nations to promote the ideas of Jihad and Gazavat (Karabulatova and Sayfulina, 2015; Karabulatova et al., 2014).

The creation of the district has reflected and fixed new concepts of geopolitical situation and geopolitical area in the south of Russia.

The decision on the foundation of NCFD was based on a number of aspects:

- Military-strategic
- Geopolitical
- National-political
- Socioeconomic
- Ethno-confessional
- Mental-cultural.

The appearance of the new district helped spread the power of the authorities on the territories characterized by high social tension, focus attention on the practical solutions of the urgent problems, concentrate financial, human and material resources.

Further development of the district resulted in the creation of the RF Ministry of the North Caucasus Affairs (the Decree of the RF President No. 321, dated 12.05.2014).

The accumulated problems and contradictions had to be solved without any delay, which led to the development of the Strategy for Socioeconomic Development of the NCFD until 2025 (Akinin and Frolova, 2012; Strategy for Socio-Economic Development of the North Caucasus Region to 2025).

Nowadays, as the district has been functioning for 5 years since the beginning of the strategy implementation, we can make some conclusions and adjustments. In addition, the global geopolitical situation around our country and its regions has changed drastically. These circumstances have caused new priorities of socioeconomic and financial development. These priorities regarding the North Caucasus will be discussed in the article.

Despite of the certain amount of criticism, we consider the abovementioned strategy to meet the situation and challenges of the period. However, it is important to mention the following. Firstly, it was developed at the time when the country was thought to have overcome the crisis, but, in fact, the crisis is manifesting itself to the full extend now. Secondly, the development of the new wave of crisis coincided with the imposing of the international sanctions against Russia. Finally, practical knowledge of the

new district performance the analysis of which will be of great use for the development of new plans and programmes has been accumulated by now (Alekseenko, 2015; Kraynova et al., 2015; Karepova et al., 2015; SKFO: 5 years on the road to success, 2015).

Regarding sanctions, it is necessary to mention that they have been imposed against the most competitive industries: Nuclear, aircraft and space industries, military-industrial complex, oil and gas industry and banking sector (Moment of Truth: Russia and the Western Sanctions).

## 2. MATERIALS AND METHODS

In the function of the main materials the media publication are used, and their comparative study constituted the subject matter of the present article. We also used the open statistical sources; they are allowed to make a prediction about the future development of the North Caucasus.

The events in the South-East of Ukraine were just the cause to introduce these sanctions. The reunion of the Crimea and Russia can be regarded as the starting point of the end of the unipolar world. However, it still exists, there is a superpower and it has to be taken into account.

Now let us consider the global financial crisis that has not disappeared anywhere. Due to the favorable conditions in the global oil and gas market the economic situation in Russia improved in 2009-2013, which bore the illusion that the country successfully overcame the crisis.

At this point we should note one more crucial aspect. Today's global crisis is not the economic recession as it is commonly viewed. It is the crisis of the neoliberal model (the US-centered in its form and oligarchic in its essence) (Moment of Truth: Russia and the Western Sanctions, 2014). In recent years, the external signs of its manifestation have been freezed by the huge financial emission and military expansion. Nevertheless, the crisis phenomena are increasing. The pyramid of derivatives, debts and inequalities is getting higher which threatens with catastrophic breakdown. It is important to remind that the external debt of the USA is about 18 trillion dollars (US National Debt, 2015; Markevych and Yurchyshyn, 2014). These pyramids can be saved only by the acquisition of new resources and territories, and it is a well-known fact that these resources can also be found in Russia. Our country occupies 14% of the Earth's surface, 0.5% of the world's population live in it, and it has a full range of natural resources, which comprise 40% of the world's reserves (Moment of Truth: Russia and the Western sanctions, 2014). Statistical data were correlated with the results of other researchers and copyrighted material (Karabulatova and Polivara, 2015; Ryazantsev, et al., 2015; Ryazantsev, et al., 2015; Pismennaya, et al., 2015). The analysis of characteristics represents the main focus of this research.

## 3. RESULTS

As noted above, the North Caucasus is the territory of the strategic interests for many foreign countries. The priorities of the

socioeconomic and financial development of the North Caucasus under conditions of current global financial crisis, international sanctions and its 5 years existence as a Federal District are shown in Figure 1.

There we suggest two large segments - import substitution and finance rationalization. It is obvious that import substitution should be implemented in the agricultural and tourist-recreational clusters due to the fall in ruble exchange rate.

It should be taken into account that agricultural sector of NCFO contributes greatly into the country’s food security - it produces 45% of grape harvested in Russia, more than 10% of crops, fruit and vegetables, more than 5% of sugar-beet.

There are 11% of cattle and 40.8% of sheep of all Russia in the farms of the district. The district supplies 7% of milk and 44.2% of wool produced in the country (strategy for Socio-Economic Development of the North Caucasus region to 2025: Approved by the Federal Government, 2010). As regards the prospects of tourism development, it should be stressed that there are 6 state natural reserves, 2 national parks, 7 state wildlife sanctuaries (Strategy for Socio-Economic Development of the North Caucasus Region to 2025: Approved by the Federal Government, 2010).

The following factors contributed to the revival of electronics in the region:

- Firstly, it was a fairly well developed industry in Soviet times.
- Secondly, current geopolitical situation forces the country to produce domestic hardware components and final electronic products; the necessity of such decision has been partly caused by the latest scandals involving scanners and sophisticated viruses found in foreign products.
- Thirdly, one of the conditions for the development of electronics industry is favorable ecology in the region.

The creation and development of automobile industry cluster is a landmark initiative that needs to be discussed in more details.

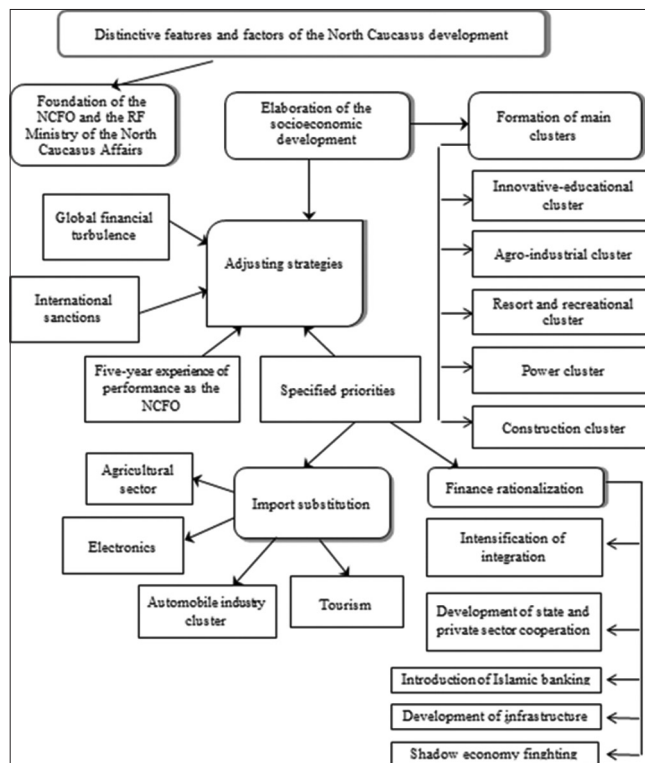
On the whole, the automobile industry is the most dilapidated sphere on the former Soviet Union territory. Nevertheless, all the hopes for the country’s revival are connected with this industrial sector, but, why exactly in the North Caucasus? Where did this center of economic growth appear from?

About 2012 the “Derveis” automobile company (Figure 2) was founded in Cherkessk which is the capital of Karachai-Cherkess republic. The name “Derveis” was derived from “Derev,” the family name of the company’s founders.

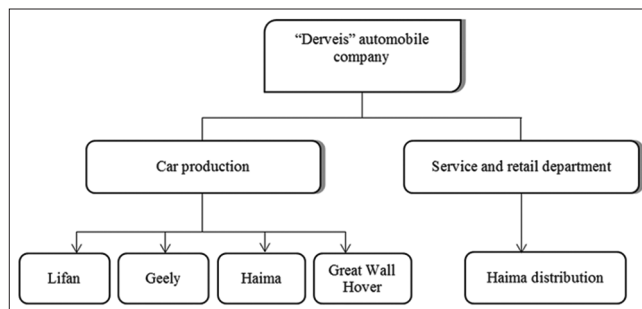
The cooperation with Geely Company can be explained by the following. It is one of China’s ten largest automobile companies; in 2013 it was recognized the most innovative company in the country. Moreover, now China is one of the most promising Russia’s partners due to the possibility to make transactions in rubles and Yuan among other things.

Before its participation in the business of car production the family produced furniture, alcohol drinks, was engaged in mineral

**Figure 1:** Structural-logical model of socioeconomic and financial development of NCFO under current conditions



**Figure 2:** The structure of “Derveis” automobile company



water bottling and tailoring, i.e., worked in the spheres traditional for the North Caucasus. The evolution of the company can be seen as one of the ways to overcome the existing contradictions on the former Soviet Union territory when the North Caucasus being a region possessing unique natural resources and population was viewed as a poor and depressive area. This logical conclusion, which is false to some extent, was made at the time of the strategy development.

Yet, many obvious signs (expensive houses and cars, the amounts of foreign currency, luxury goods, etc. bought in the region) show that there are many rich people in the district. However, this money function mostly in the shadow economy (including alcohol and brick production, mini oil-refining and farm business) (Akinin and Jidkova, 2014; Akinin et al., 2004). “Derveis” is an example of the company that has left shadow economy, entered a large-scale production and started cooperation with reliable foreign partner.

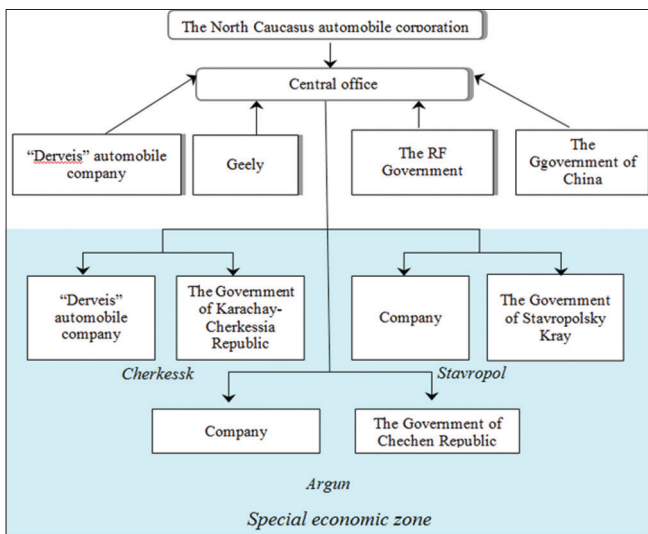
Nowadays this cooperation has a potential to be developed into the North Caucasus automobile corporation that can become a so-called Cherkessk-Stavropol-Argun “axis.” There is an opportunity to create a special economic zone on the territory of three subjects (Karachai-Cherkess Republic, Stavropolsky Kray and Chechen Republic) in Russia with the total output about 300 thousand cars per year (Figure 3).

As regards resort development, let us now return to the existing strategy. It is evident that unstable and insecure territories have little potential. At the same time, the leading clusters of the region are Dombai, Arkhyz (Karachai-Cherkess Republic) as well as Mt. Elbrus area (Kabarda-Balkar Republic).

In the sector of finance rationalization we suggest:

- Further intensification of the integration process
- The development of state and private sector cooperation
- The introduction of Islamic banking

**Figure 3:** The structure of the North Caucasus automobile corporation



- The infrastructure development
- Intensification of systematic anti-shadow economy efforts.

The abovementioned areas need to be discussed in more details.

The intensification of integration processes means consolidation of efforts and resources for the implementation of the project. In this sphere, first of all, we assume interregional collaboration in implementation of such projects as agricultural processing, solid waste recycling, development of alternative energy and infrastructure (roads and terminals).

It is worth mentioning that the creation of the district resulted in functioning of its subjects within the common economic zone. Another positive effect was the creation of the North Caucasus Federal University - a new growth center of the innovative-educational cluster.

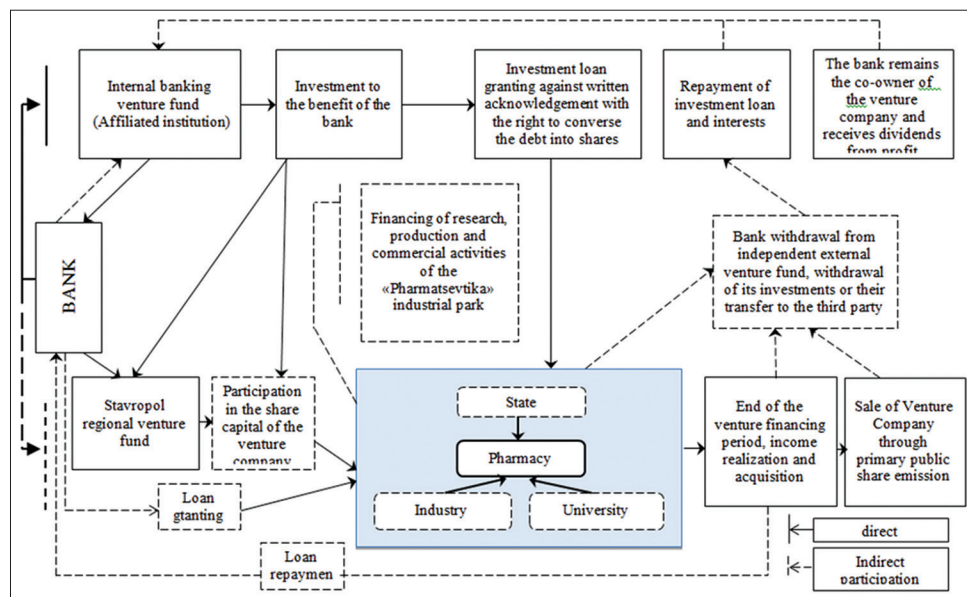
As for the financial capital mobilization, we suggest the development of state and private sector cooperation where innovative vector prevails (Figure 4) (Anikina and Abasov, 2013; Minakov et al., 2015).

Nowadays, when we have to deal with anti-crisis problems again, we should recall Medvedev’s “Four Is” (innovations, investments, infrastructure, and institutes). The money allocated into the spheres mentioned above do not speed up inflation but form the basis for further innovative development.

#### 4. CONCLUSION

In the context of the North Caucasus, one of the most important spheres is the development of new, shorter ways to the Black and Caspian Seas, i.e. the construction of both automobile and rail roads. It should be mentioned, that the straight-line distance from Karachai-Cherkess Republic to Krasnaya Polyana is just 49 km, and to Sukhum (the capital of Abkhazia) is 111 km.

**Figure 4:** Structural-logical model of bank participation in the venture fund for the financing of the innovative cluster





It is also reasonable to introduce the Islamic banking due to the large proportion of Muslim believers among the population (Akinin and Antoshkueva, 2012). These days on the territory of the former Soviet Union the Islamic banking functions in Kazakhstan, and it is expected to be implemented in Tatarstan as a pilot project. The corresponding Bill on its further development has been introduced to the RF State Duma (The Bill No. 746023-6). The Islamic banking provides for the income received from the final product (implementation of the innovative project) rather than from credits (usury).

Finally, the problem of shadow economy should be discussed. It seems to be the most burning issue for the North Caucasus macro region taking into account the influence of the bordering states - Azerbaijan and Georgia - which have similar situation (The Shadow Economy in the Regions of NCFD: Opportunities and Ways of Transforming it Into a Local). These anti-shadow economy efforts must include joint work of the law enforcement institutions against oil and gas pipeline tie-ins, poaching, sturgeon caviar extraction, and smuggling as well as against concealment of real output and tax avoidance. The latter is mainly typical for agriculture (concealment of cultivated areas, cattle stock and real income).

The political power is essential for the implementation of the strategies described above. It should also be taken into account that payments in cash can be replaced with the exchange trade while the cultivated areas and cattle stock can be easily monitored with global positioning system.

In conclusion, it is necessary to continue with bank resolution, to improve banking systems of risk management and interaction between financial and real economy. The new stage of regional strategy development should also be considered. With the implementation of the new Federal Law "On the Strategic Planning in the Russian Federation" it becomes a landmark of new, higher level of regional management.

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# Technological and Methodological Approaches to the Design of Information and Educational Space of Modern High School

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## ABSTRACT

The paper discusses the technological and methodological approaches to the design of information and educational space of the modern university in the widespread use of new information and communication technologies to significantly improve the quality of training, learning to make personalized, intense, advancing and developing. The authors have given detailed interpretation of the concept of "information and educational space" considered its main elements and functions. It revealed the most important advantages offered by the modern university properly formed educational space. Reflect technological and methodological foundations of design information and educational space of the university, as well as the implementation phases of the project. Particular attention is paid to the means of information and educational space, which provide its constituencies to perform a number of important functions, including the development of innovative solutions for the automation and informatization of educational process. It is shown that an important component of design information and educational space of the university is the development and standardization of information resources. The submissions have applied value for specialists in the field of design information and educational environments and spaces, as well as teachers seeking to integrate successfully into the modern system of vocational training.

**Keywords:** Informational and Educational Space, Infrastructure, Education

**JEL Classifications:** H75, I2

## 1. INTRODUCTION

The system of higher vocational education in Russia is at the stage of active reform: Changing the organization of the learning process, develop new educational services, developing innovative teaching methods and directions, forming a system of continuing professional education, a new type of interaction between teachers and students, designed a single information-educational space.

The intensive computerization enables the possibility of an open education system with the choice of each student individual learning paths, high variability and adaptability of training courses, implementing, thereby, student-centered approach to learning.

The system of open education with a high degree of informatization different substantive content and depth, comprehensive and systematic, the integration of all elements in the learning process. It has a high capacity handling with continuous planning, monitoring and adjustment of the educational process.

New information and communication technologies in education permit (Godina, 2005; Domansky, 2008; Eremenko, 2002; Pankova, 2007):

- Generate sophisticated educational content using modern media.
- Receive geographically remote student's access to information resources.
- To create new tools for learning and collaboration of educational process.
- Take continuing education using distance learning technologies.

By incorporating information technology improves the quality of vocational training is becoming more personalized and intensive. There is a possibility of realization of advanced and developing education through the development of innovative forms, methods and technologies for learning.

Informatization provides the necessary level of mastery of ICT tools, implements a unified educational methodology with the possibility of integration of educational, research, methodical, scientific and organizational activities.

Use of information technologies in educational process of preparing the participants of educational process to the new forms of their professional life in the information society, increases the overall professional competence and competitiveness of future professionals (Persianov, 2009; Suzdaltsev, 2008).

## 2. RESEARCH THEORY AND METHODS

### 2.1. Informational and Educational Space of the University: The Concept, Features, Components

The development of modern education requires a combination of information resources and technologies of all educational institutions in a single unified complex with a common methodological requirements and recommendations.

In this regard, a promising direction of informatization of modern vocational education is to build a school in every educational environment, followed by its inclusion in the unified information educational space (UIES), formed on a national scale.

Development of appropriate design, technical, pedagogical and methodological approaches will allow the phased build uniform information educational environment of the individual schools, and combining them in series to form a single IES (Akhmetov, 2002).

The study of the problem of formation of information-educational space of the significant contribution made by prominent scholars Abdurakhmanov, Barishpolets, Vepintsev, Grachev, Zuev, Kopylov, Krysk'o, Manilov, Modesto and others.

IES can be defined as a space of the personality changes people for educational purposes through the use of modern information and communication technologies, the increasing role that the organization of educational activities determines the urgency of the task of designing and structuring IES of the city, the region and the country as a whole (Akhmetov, 2002).

Some authors refer to the concept of "UIES."

Yastrebtsseva UIES reveals the concept as a communicative information and educational environment at a particular educational institution, distinguishing feature is the flow of information. At the same authors identify "non-electronic" information educational environment of educational institutions, and "electronic" (Moiseev, 2002).

Ovechkin and Podkovyrova understand under a single information space of the university information environment in which there is a hierarchy of methods to create information resources and work with them. This information resource of the university means any data, information, knowledge sources or consumers that are the students, graduate students, doctoral students, faculty, administration and staff of the university.

Kovalevsky, Krasilnikov define common information and educational space as a reality, organized and managed by a single generated concepts, approaches and mechanisms for the implementation of the overall strategy of the existence, development and the achievement of the cultural, educational and professional level of the subject, combined on a unified information technology basis.

Single Information Space is understood by some researchers as a set of data, technologies for their support and use of, information and telecommunication systems and networks operating on the basis of common principles and general rules that provide information interaction of organizations and citizens, as well as meeting their information needs (Akhmetov, 2002).

The etymological analysis of the definitions shows that you can highlight certain characteristic features, the authors note, and separating informational educational environment of the information educational environment.

Firstly, it is the large number of information resources needed to meet the needs of participants in the educational process and the numerous tools to work with, allowing you to identify it in the category of large scale multifunctional implemented as the result properties.

Secondly, the presence of a large number of subjects, ready to use, and provide these resources.

Third, the existence of the UIES at the state level.

The best, in our opinion, is to determine the IES in the form of IES - a controlled and dynamic view of modern trends in the modernization of the Russian education system is efficient and comfortable providing information and communication services to all actors of the learning process, which is part of a single information education space of the Russian Federation.

The infrastructure of information and educational space includes the following main elements (Godina, 2005):

- General-purpose software (word processing, graphics, spreadsheets, etc.).
- Software for automation of various services (accounting for students, for personnel records, to schedule, to analyze the performance, for the automation of the library and others).
- Software and methodological support for the organization of the educational process (training and developing computer programs, electronic encyclopedias, multimedia encyclopedias, etc.).
- Information resources of educational institutions (unified database, educational databases, multimedia educational development, document storage, website).

The main functions performed by the information space, include the following:

1. **Integrated:** As part of this function, the information space brings together in a single space-communicative and socio-cultural environment different kinds of human activity and dealing with their subjects, including both individuals and entire nations, peoples, international coalition and multinational corporations.
2. **Communicative:** Information space creates a special environment of cross-border, online and mobile communications various stakeholders in which they carry out information exchange.
3. **Updated:** It is carried out in the information space actualization interests of various stakeholders through the implementation of information policy.
4. **Geopolitical:** Information space generates its own resources, and changes the value of traditional resources, creating a new environment of geopolitical relations and competition.
5. **Social:** Information space is transforming the composition of society and changes the nature and content of socio-political (social) relations in all spheres - politics, culture, science, religion and others.

The information space is regarded as construction, serving in a variety of forms: Physical space co-curricular activities of students, the virtual space of hypertext hierarchical system space (Materials Forum "common educational space of the school," <http://www.sandbox.openclass.ru/forums/36040>).

Our analysis of a number of research scientists revealed the most important benefits of the formation of information educational environment of high school:

- The possibility of implementing technology-oriented individual training in specific subjects through the submission of information on the program, the form and procedure for training, presentation of theoretical material, material for self-assessment, project tasks.
- The possibility of implementing an individual trajectory of advancement of the domain by selecting the level and type of presentation, depending on the individual development types of thinking.
- The ability to differentiate the learning process through the use of tools and technologies to choose jobs at different levels of organization of self-promotion on the themes of the course performing students and return to a running material lagging students.
- The emergence of new forms of interaction between the teacher and the student in the learning process, leading to a change in the content of their activities.
- Improving the methodology to select the content of professional training, better planning, organization, management, quality control of the learning process, improve the overall quality of education.
- The use of various forms of self-study.

## 2.2. Technological Bases of Design Information and Educational Space of High School

In modern conditions should be clearly built system design information and educational space of the university, which should lead to the improvement of the quality of the educational process,

a high level of scientific research, integrating higher education into the national education system and the world. This will allow the university to strengthen the position of the regional scientific and methodical center of information, improve the competitiveness in the educational space.

Creating an IES in general terms through the following stages (Persianov, 2009; Yastrebseva, 1999):

1. Formed all the necessary basic information sharing educational institution, which can be completely or partially open to all subjects of the educational process.
2. Information sharing array of processed and differentiated through the planning, organization and management of educational process.
3. The main part of the instantiated information is transmitted to the administration and to ensure the content of the educational process, where it is further processed, archived and stored.
4. Information sharing and processed information enters the system modules additional security, where there is further work with it.
5. Processed in systems and modules are the basis for the formation of accounting documentation.

For the design of information and educational space must be based on the basic technological stages of construction of educational spaces such as:

- Decomposition IES for a particular system of high school education.
- Allocation of the main content structure and component composition of the IES.
- A general description of the information and educational space and its components.
- Construction of the relevant schemes and technical specifications.
- The development of logical and physical structures of information and educational space.
- Identification of the main technical and technological characteristics of the IES, the problems and solutions.
- Choice of development tools, hardware and software, information resources.
- The development of the space component, their unification and binding within the same environment.
- Training of personnel and trainees to work with the relevant components of the IES.
- Practical testing of the IES in terms of the educational institution.
- Improvement of infrastructure on the results of testing of the IES.
- The development of the missing information resources and their integration in the information-educational environment.

The information system of the university should be designed as an integrated logistics system, where the main business process serves the educational process, and all the rest is subsidiary and must ensure the flow of basic educational process.

Logic and structure of building an information base should be based on the possibility of automation of all stages of the core

business process, starting with a set of entrants and ending with the release of the finished professional (Moiseev, 2002).

The educational process as an object of logistics engineering is supported by three main components - the management, production and information flow.

The input to the system receives the logistical, financial, technological, energy, human and information resources. During operation of the educational system, they, in accordance with a predetermined single learning technology used, processed, modified to the final state. As a result, it issued a variety of products and the effects in the form of trained educational content, including e-defined methodology of the educational process, the system of methods, approaches and training aids.

Logistics processes must ensure the full functioning of education as a production company that works with different resource providers - schools and "sends" his "products" - graduates of specific enterprises, institutions and firms. The information system provides the organization is information links of any complexity and trends, supporting not only the specific information environment of the university, but also in general education space.

The approach from the perspective of the intensified Logistics ensures transparency and openness of all processes and procedures of clarity and consistency, a high majority of optimization of business processes, gives the mechanism of formation of high efficiency and adaptability to any external conditions.

Design information and educational space must be based on a clear system of training specialist teachers, which can be built on the principles of automation and informatization. Adequate overall educational tools automated system for training of educational process will organically fit and interact with all levels of education to ensure the transfer and exchange of experience, research and innovation activities between colleagues.

Note that the main subjects of information and educational space are the experts in the field of education, directly addresses the problem of higher education. Data related subjects and a team of additional vocational education training. Among the new subjects of information and educational space include experts in the field of software, offering optimal solutions of information and educational services, as well as professionals, to develop innovative solutions for the automation and informatization of educational process.

All subjects of design information and educational space launching a new level of modernization of the educational process, aimed at greater autonomy learner conscious manifestation of the desire to acquire knowledge and sustainable learning motivation, development of search and research and creative activity.

Information space means the teacher provides the following functions (Gagarina, 2009; Krasnoshlykova, 2005; Persianov, 2009):

1. Create and modify training material, educational tasks of the course (individual modules, lectures, tutorials, assignments

for tests, examinations, course and diploma projects, exam materials).

2. Library Management course development (templates, audio and video clips, animation).
3. Individual modification of the composition and level of the course for specific students.
4. Quick, fast and optimal search of the necessary information about the course.
5. Monitoring the course (obtaining the necessary statistical information about the course, trainees jobs).
6. Turn on the developed training course in the university database.

Must be designed and individual student's educational environment, where there may be electronic textbooks and manuals, videos of lectures, workshops, testing system, the online version of the course for distance learning and so forth.

Information means this space provide the following features (Persianov, 2009):

- Configuration of the course at the request of the student.
- Playback of multimedia and animation fragments of the course.
- Self-testing and self-knowledge of learners at all stages of the study course.
- Access to the course through the network and study it with the navigation services.
- Introduction of passwords to eliminate unauthorized access to the work and files of trainees.
- The development of skills training network.

### **2.3. Methodological and Organizational Approaches to the Design of Information-Educational Space of Modern High School**

An important component of the design is the development of the IES and unification of information resources of educational space, which must satisfy several methodological principles (Tagunova, 2009; Yastrebseva, 1999):

- Principle of complexity, involving a study of the university information space in the socio-cultural context and within the framework of various scientific disciplines: Sociology, pedagogy, library science, computer science, cultural studies, theories of documentary and information flows.
- Humanitarian principle, which allows to solve the problems of social partnership library - society, library - university librarian - reader in IES, both the university and the region in which the institution is located.
- The principle of the optimum ratio of valuable orientations of the person and a particular national, cultural and educational environment of the territory, has an important influence on the development of intellectual potential of society and as the university and the individual.

In terms of pedagogical content of the specified list of principles expanding characteristics such as scalability, dialogue, adaptability, redundancy and quality of the multidimensional nature of the information and educational space of the university.



Unification of the information resources should provide all users in high school uniform interface to the operating principles of the means of information, to give consistency and completeness of the information support of all the activities inherent in the modern university.

Since the projected area of the university has managed not only to the nature of the development, but also self-development (Klimontovich, Dobronravov, Tsikin, et al.). The basic principles underlying the development and self-designed information space They are:

- The open nature of the information and educational space.
- Coordination of actions of all participants in the information process.
- Mnogovariativny nature of the development of information and educational space.

Maximum variation IES University provides differentiation of all users into categories, substantially simplifies the adaptation to the specifics of the operation of a particular institution, the needs of teachers, the content of implemented methods and forms of training of students.

Design information and educational space should have a holistic conceptual in nature and is a specialized information project presented at the level of individual educational institutions (Kechiev et al., 1999 and Moiseev, 2002).

Design information and educational space from the standpoint of the integrated presentation should be related to the further development of modern telecommunications and information environment of high school; active informatization of educational process, the creation of an automated library system, automation of administrative and management processes of the university and research organizations; development of multifaceted cooperation with other educational institutions outside the territorial boundaries.

The development of modern telecommunications and information environment of the university involves the systematic acquisition of computer equipment to the required standards, the purchase of necessary network and peripheral equipment that provides the ability to copy and reproduce the information on various storages.

Under the educational needs of the university need to purchase licensed software by concluding agreements with leading software providers to acquire academic versions and licenses.

It should be established distributed corporate university computer network with high-speed channels of all branches and permanent increase in the speed of access of educational institutions to the Internet.

It should be the creation of a cable television university with a view to its active use of the university. It must be developed and implemented a wireless network access to electronic resources of the Institute in order to increase mobility training.

It should constantly seek out and quickly deploy the most effective training at mandatory use of integrated complex telecommunications, multimedia and distance learning technologies.

Also important is the purposeful formation of information culture of teachers and students as an integrated quality of life of the individual characteristics of the information society.

Serious attention should be paid to the system of motivating-stimulating measures to increase the interest of teachers and university staff in active use and the creation of software and methodical support of network information and multimedia technology to support multi-level training, works to improve the skills of teachers.

It is necessary to ensure continuity of educational programs "school - college - high school" in the field of information technology, to develop a system of additional vocational training in information technology, certified training, a two-tier higher education (bachelor and master) on Information Technology.

Informatization of processes of university management involves the creation of a single integrated automated information system of university management, which will on the basis of the analysis and modeling of information flows circulating between the structural units of the University establish a system for controlling access to data, system administration and user interfaces; automate the management of administrative, educational and scientific departments of the university; create a single system for monitoring all types of information resources: Education, intellectual and material.

Information of research should be linked to the development of new forms of research activities based on the use of modern information technology - teleconferencing, electronic magazines, remote database access, etc.

Let some research areas, which in modern conditions should actively initiate (Averyanov, 2003; Godina, 2005; Usenkov, 2003):

- Carrying out fundamental and applied research in the field of complex use of new information technologies in the field of scientific research.
- Creation of a computing cluster for the organization of high-performance computing to simulate real processes and phenomena in various fields of science, technology and socio-economic activities.
- The development of scientific areas related to new information technologies, environment and resources (computer-aided design techniques, multimedia techniques, etc.).

Sharply there is a need of establishing joint production, inter-institutional, regional and international centers and laboratories for the implementation of information technology in a variety of domain-specific areas of activity and the development of integrated scientific and educational projects.

It is actively developing a system of training of scientific personnel in the field of information, that is, to develop appropriate programs

and course materials, include them in the curricula of master's and postgraduate studies.

It is necessary to develop a system of internet-resources of the university and its divisions, contributing to the expansion of relations with other educational institution educational communities.

It is necessary to form the legal documentation governing the procedure for placing sites on the server of the university departments, establishment of domain names, securing persons responsible for the maintenance and content of the portal.

It should involve teachers and students in the university commissioned an educational portal and content pages cathedral.

Need an optimal structuring of the site content, reorganized sections and systematization of information taking into account the focus on the target groups of visitors.

We need to develop foreign-language versions of the portal, as well as the monitoring of complaints of students and university staff to the information resources of federal and regional educational portals, domain-oriented sites. There should be a comprehensive analysis of the demand for electronic information and educational resources of the university.

The development of information and educational space should be carried out as an increase in the number and scope of the elements included in its composition, its gradual expansion and consolidation, planned to create new opportunities, and actively promote the accelerated IES college to a new qualitative state.

This space promotes intensive development of the capacity of educational process for innovation, generates stable installation on the changes in the conscious and deliberate mastery of professional activity, the development of innovative activity, creativity (Godina, 2005 and Krasnoshlykova, 2005).

Formation of information-educational space of the university will allow to reach the current level of private information, significantly improves the content of education based on ICT tools through the creation and use of virtual laboratory complexes, multimedia lecture notes, electronic textbooks.

In addition to ongoing research work on creation of IES of the university, now it is advisable to consider possible future prospects for the integration of information spaces of high schools into a UIES at the regional and national levels with a view to gradual integration into the world information and educational space.

### 3. CONCLUSION

Creation and development of teaching information technology is a prerequisite for the functioning of the educational information space of the state, as these technologies on one hand, is based on the theory of pedagogy, psychology, computer science,

management, on the other - using the broadest possibilities of modern information and telecommunications technology.

The real way to create a UIES in the country is its basing on modern computer media telecommunications exchange.

In this regard, it is increasing the relevance of the requirements of building the information educational environment of educational institutions in the form of educational information Internet portals based on maximum use of the advantages of regional and global information networks.

In this respect, actively developed nation-wide scientific and educational portals, accumulates all similar provincial and regional portals and is a system basis of IES of the country (Shcherbina, Design ethno regional educational space of pedagogical high school, [http://www.rspu.edu.ru/university/publish/pednauka/2006\\_2/sherbina3.htm](http://www.rspu.edu.ru/university/publish/pednauka/2006_2/sherbina3.htm)).

Thus created space is distributed and has a common navigation tools to ensure that all categories of users for quick and simple means to find: An educational institution, regardless of the location and directions of preparation of students.

With the new tools, you can get complete information about the structure and functioning of the institution; a list of institutions providing education in a particular occupation through their information educational environment. It is possible to gain access to any information resource registered in the information educational environment, regardless of where it is physically held and accessories for specific information educational environment of educational institutions.

Speaking about the prospects of development of the information educational environment of higher education, it should be noted the need to integrate it with the now formed a global information space. There is growing number of information of educational resources for widespread, not "attached" to a particular area of use (Yastrebtseva, 1999).

Freely distributed educational information systems available around the world through their location on the means of global computer telecommunications.

Computerization and the expansion of access to education through the use of information and communication technologies have become part of the process of globalization that provide everyone an opportunity to receive education throughout their lives.

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## **Instrumentation Organizational and Economic Support of Labor Motivation of Employees**

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### **ABSTRACT**

The problem of motivation of employees is a top priority in a number of organizational and economic problems of the modern enterprise. The willingness of the staff to do their work is a key factor in the success of the enterprise. Each manager is interested in the fact that a worker taken separately and the team as a whole worked more effectively. Mechanical forced to work cannot give a high positive. The path to the formation and development of effective management of the enterprise worker is through the understanding of its work motivation. Establish and develop an effective system of forms and methods of employee motivation can only know that he is motivated by what is the motive for his activity, what motives lie at the heart of its actions. Then must understand how there are certain motives, in what way the latter can be operated, how the motivation of employees. To increase the effectiveness of work is possible through knowledge of the structure of motives and needs of employees; specific measures for loyal perception of the company's management and promotion of the significant results; improving the quality of the information structure and decision-making structures by optimizing the communication.

**Keywords:** Efficiency of Production, Work, Labor Economics

**JEL Classifications:** D6, E2

### **1. INTRODUCTION**

In the XXI century stage of development of labor economics in the Russian Federation is characterized by the rapid growth of interest in the problems of motivation of professional activity. Theoretical generalization of the first chapter of the research allow us to understand and to offer his solution to the problems of motivation activities, taking into account all the events and trends of 2010-2015. In the course of several studies specifically attentive to wages, as the authors suggest that the basic rate should be made to non-material labor motivation of employees (owing to the global financial crisis and a stagnation in the development of socio-economic systems after 2008-2009 In Code). Stimulating the objective function of wages, virtually destroyed by the crisis of the labor market. However, if we consider the single enterprise,

the function and purpose of the wages may be recovered under the following conditions:

1. Quantification of wages depends on the personal contribution of each employee on the results of its operations, from the professional competencies;
2. The performance evaluation of employees and employees of the enterprise are set depending on the complexity and quality of work;
3. Take into account the specific features of tight employment of the employee;
4. Identified in the company's competitiveness perfect wage (given the circumstances of each profession) in the Krasnodar Territory and the comparability of his salary depending on the results of the employee;
5. A clear structuring and differentiation in pay work, i.e., you



must respect the “gap” in the payment of employment between the most highly paid and the lowest paid workers, it should not exceed 30:1, or there is the advantage of a critical mass that will lead to a social crisis in the company.

## 2. MAIN PART

To build the perfect economic model of labor motivation of employees and staff of the enterprise in the study are invited to consider the following aggregated blocks motivational model (Hutabarat, 2015):

- Economic - sources of funding, salaries;
- Organization - the conditions of work, schedule running professional duties, performance qualification requirements;
- Social - pensions, health insurance benefits, child care, paid maternity leave, social protection of young workers, the ability to freely access the session (for those who are trained in absentia in SSUZ and universities).
- Moral and psychological - to maintain morale in the workplace, the choice of the correct and appropriate leadership style, good value for rewards and punishments.

The study highlighted the basic elements of the model of development of system of motivation of individual employees and staff of the enterprise as a whole; the place of the motivation system in the development of employment as a factor in the behavior of intra-enterprise workers. To achieve the desired intermediate and final results of the enterprise necessary to create a model of the formation and development of the motives of workers.

In our vision, the system of motivation is complex purposeful external and internal influences on the steps of the activities of employees and the entire staff of the enterprise. The structure of the system of motivation can be determined as a landmark decision by the governing body decisions about the motives of managed entities to commit the required action. For the development of, for example, the creative activity as a factor in the behavior of the intra-company employee’s incentive system is crucial. Its impact on the growth of creative activity is determined using the methods of performance management to create a stable relationship of strategic priorities for enterprise development and performance of its key employees (the second part of the classic example of “carrot and stick”).

At the heart of creating a system of motivation may apply the following principles:

- Continuous improvement of the results achieved by the labor of workers;
- Evidence and measurability of results of work of employees;
- Evaluation of the 10-point scale, which will separate the weak, medium, strong workers and encourage them accordingly;
- Presence of feedback, the opportunity to discuss the results of the evaluation to the general manager.

The work to improve the overall performance of the company offers a structural-functional model to improve the system of employees’ motivation of employees, as reflected in Figure 1. In general, the model is endowed with the following features:

Integration, allowing different people to work within the same enterprise; learning that shapes workers skills most effective work; adaptable, i.e., contribute to the rapid incorporation of new employees in the organizational processes. Our proposed structural-functional model of improving the system of motivation of employees consists of consecutive blocks:

Block 1 – “Formation of strategy of motivation.”

Block 2 – “Study of the current level of effectiveness of the motivation of the enterprise.”

Block 3 – “Analysis of the best areas of formation and development of system of motivation of the enterprise.”

Block 4 – “Identification of possible methods of stimulation and motivation.”

Block 5 – “Proposal of measures to improve and adapt the system of motivation.”

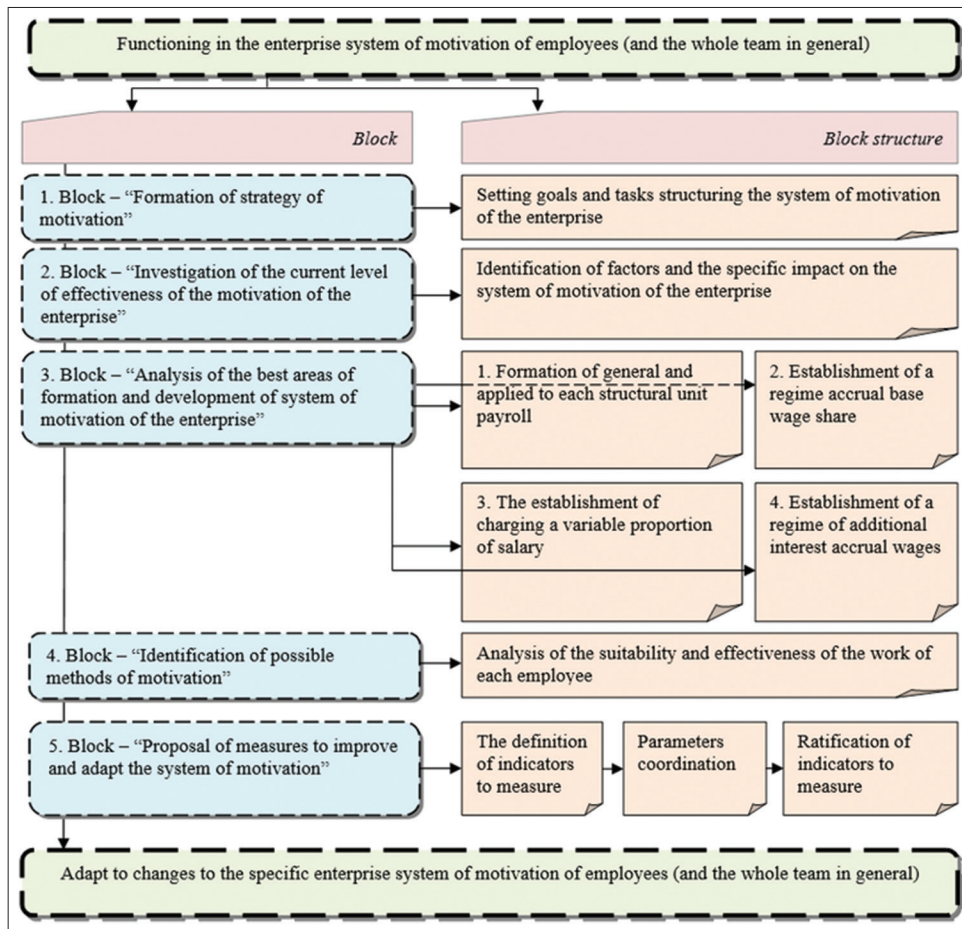
The result of the adoption and implementation of structural and functional model of improving the system of motivation of employees is expected to become adapted to the changes to the particular conditions and a particular company, the system of motivation of employees, and, as a consequence, improve the basic performance of the company, as we have established that the motivation of workers depend key indicators of the effective operation of the enterprise.

However, noting the importance and primacy of non-motivation, we cannot lose sight of the financial motivation. In order to base the size of the individualization of motivation (wage workers), in this thesis the necessity of determining the size of a personal job wages. To this end, the base wage increases the personalized set installed on the basis of the rating level of progress of the work, combined with the levels of achievement of the strategic objectives of the enterprise.

Based on the analysis of different approaches to the variable part of remuneration allocated total combined scheme of variable pay, which includes participation in the scheme of increasing income and profitability of the company and participate in the aims and objectives of the enterprise. Participation of employees in the implementation of the objectives and making a profit can be both collective and individual. An important feature of bonuses for individual results of the work is to determine the size of the monthly premiums, in accordance with the integral indicator of the employment of the employee - rated on the basis of activities, such as the reporting year. The main problem areas have been identified in the course of the analysis of existing systems of motivation to study enterprises represented by the following positions:

1. Each work activity must be adequately remunerated; “Equal pay for equal labor activities” - such a rule does not always act in the conditions of market relations;
2. Functioning model of labor system motivation should serve adequate and optimal employee motivation to work;
3. The system of motivation of labor activity should serve adequately the employee to self-determination among his professional tasks; model of motivation should encourage such employees, which is valuable to the company.

In practice among Russian companies still are of the opinion that it is sufficient to develop a standard provision of labor motivation

**Figure 1:** Structural and functional model to improve the system of motivation of employees

of employees - and demand on the paper model of the system of motivation will work. In fact, the most time-consuming and determining the success of the whole process is the stage of immediate implementation of the system of motivation, which occupies about 70% of labor costs (Strategy for effective motivation, <http://www.kadrovik.ru/modules.php?op=modload&name=News&file=article&sid=3517>). When designing a system of motivation, it is important that it is set to the strategic objectives of the enterprise and strategic development of all employees. It is necessary to revise the annual incentive program employees: Take into account the shortcomings, errors, new goals and objectives, changes in the internal and external environment, etc. (Reznik et al., 2003).

Indeed, modern economic system needs innovative developments in the field of modern enterprise management of reserves, which in turn would enable the company to provide high efficiency, competitiveness, sustainability and reliability.

Russian peculiarities of realization of the labor potential of workers and collectives in the enterprises of the Russian Federation we have identified the following blocks.

1. A large number of valuable workers in the Russian Federation are considered normal working mainly for reasons of self-actualization, the importance of their work, and so on. N., Referring to the second material factor. With such workers facing business leaders constantly, for example, among

teachers, doctors, scientists and experts of other professions intellectual and creative environment. Historically it formed a respectful attitude to the ideological component of the work on trade and production (construction) companies (Shkurkin et al., 2015). This fact underlines the importance of non-financial motivation to work in the Russian Federation and includes a mandatory individual approach to employees in the development and implementation of the intangible motivation. The most effective non-motivation, based on attention to the individual employee and the recognition of his professional success (Hedlund et al., 2016; Miragaia et al., 2015).

2. The traditional Russian culture is very important informal communication, friendship between workers workforce. Particularly susceptible to diverse aspects of relations in enterprises by women (Kobersy et al., 2015). They take greater account of the emotional climate, so when working with female motivating the workforce intangible should pay particular attention.

The study proposes a means of instrumentality organizational and economic support of labor motivation of employees and the workforce divided into the following groups:

1. Economic: Economic instruments are determined mainly by cash payments of wages and cash bonuses. In this group we include awarding trips to rest individual workers, their families and the whole team. However, it is necessary to specify two-sidedness of such funds. On the one hand, it is immaterial

motivation to work, as the worker does not spend money for the trip, on the other hand, this material motivation, because of the budget of the company spent financial resources. Model of material (economic) ways to promote and material (economic) will be offered in the following sections of the research (Parizi et al., 2014).

2. Social: Social media of motivation identified mainly intangible resources. We will discuss them below in this section, for example, an interesting job, or professional orders, public recognition, leisure time intervals of “freedom” in the workplace, information and free information field on the premises, whether as a statement of personal views and suggestions of rationalization measures (Pogosyan, 2012). Presents an interesting form of social motivation defined in case number 1 “Methods of non-financial motivation of employees for business development, in a limited time, financial and human resources” contest “HR of the year” - the professional competition among the managers of the management and motivation of employees and labor collective (“HR of the year” - the professional competition among the managers of HR. [http://sup.pro-personal.ru/contest/o\\_konkurse/](http://sup.pro-personal.ru/contest/o_konkurse/)).
3. Organizational and legal means defined by the regulations and instructions that adequately reflect the freedom and the will of the worker, his basic priorities of work, regulation of labor, working hours, etc. The complex of such provisions and regulations, taking into account fully the interests of the workers and the labor collective, national trends in the field of labor economics will only help motivate employees before starting work at the plant, in the first day of every employee in the enterprise and beyond every day (Kobersy et al., 2015).

In our work we give more attention to it immaterial labor motivation (otherwise known as “social security”). In our opinion, non-motivation of work is especially relevant due to the crisis in many businesses, we have chosen as the object of applied research. In view of this particular updated immaterial labor motivation during the global economic depression and the Russian post-crisis period 2009-2014.

The basic component of immaterial labor motivation of employees, we believe adequate human treatment of employees - only in such circumstances is expected to count on the effective work of the staff and gratitude. Human relations - is a necessary recognition of merit approval and praise for the work, understanding the difficulties and problems encountered in its implementation and, if possible, help to neutralize these difficulties. Under the non-financial motivation of work, we understand the following items and offer encouragement in their work:

1. Interesting work or professional assignments: When workers cope with their tasks, as a variant of non-material incentives can be offered to transfer some of the responsibilities of the head of charge to employees over whom they would be interesting to work with. This guide will not cost much, but, at the same time, workers would have an incentive, because they will be able to develop their professional skills.
2. Public recognition: Every employee of a single enterprise wants to be encouraged and praised for a job well done. One

of the easiest and most effective ways to encourage employees without any cash outlay - a public expression of appreciation for their efforts. This can be achieved by reporting on their achievements at general meetings by sending an e-mail greeting messages for the excellent work (with copies to all other employees of the department or the company as a whole). These methods do not require a cash outlay; they are light and very effective.

3. Free time intervals of “freedom” in working time: Another important, does not require a cash outlay way to encourage employees - giving them free time. If you provide the employee free time or to output, it will be due to the possibility for a short time to leave the office to do their personal affairs.
4. The information and free information field on the premises: Head of the enterprise need to talk to employees about how the company operates and what it has in store for the future for both the company as a whole, and for the workers. By providing information to employees, it not only helps them to what is necessary to make more informed and better decisions, but also shows that the management appreciates them as people.
5. Establish feedback: Workers strongly as ever want to know how appreciated what they do in the workplace. The only person who can tell them how they work - is a leader. Note the stronger feedback in the activities, and the more guidance it provides, the stronger the ability of employees to meet the requirements management and requirements of the enterprise (Mathieu and Babiak, 2015).
6. Employee involvement in the process: It is necessary to involve employees decision-making process, especially those that concern them. By doing so, you can show your employees that you respect their point of view, as well as guarantee for themselves to obtain the most reliable source of information in decision-making. Involving employees to increase their commitment to the company and, at the same time simplifying the implementation of the new ideas of organizational changes. With this approach, the cost - minimal, but the impact of - the maximum.
7. Independence: Employees appreciate the freedom to choose the way of performance. Nobody likes a leader who is always behind the employee, reminding him of an orderly execution of the work, and who corrects him every time he makes a minor deviation. When you talk to employees that it is necessary to perform, provide the necessary training and then give them the opportunity to decide for themselves which way they will do the job. Thus, you increase the likelihood that they will do the work the way you want. In addition, employees who feel their independence will bring additional ideas, energy and initiative in their work (Gerhards, 2015).
8. The celebration of birthdays, anniversaries, enterprise, important industrial achievements (indicators of development, the anniversary buyer-customer) the highest average number of manufactured products, having held the longest safety record, and a lot of other events - an excellent opportunity to mark these manufacturing performance among employees. In this case, the guide shows the complicity with the team in the implementation of and interest in these indicators. Subordinates will appreciate the encouragement.



9. Flexible schedule: All employees appreciate the opportunity to receive a free schedule. Some positions, such as an office manager, a retailer, a security guard, accountant, of course, require a tight schedule and location of work. At the same time, other positions, such as a programmer, engineer, financial analyst, is not so much tied to the clock and set the workplace. By giving employees the opportunity to be flexible in determining their own working hours and workplace, can be very motivating them.
10. Increasing staff responsibility: The majority of workers are improved in the workplace. Perfection through the study of new features those are available to them, as well as a chance to learn something new and to gain work experience in the enterprise. Most workers are hoping to learn more, to be a member of a high-level decision-making and improve both their responsibility and their salaries. Therefore, the provision of workers to act, to learn and grow professionally - a strong motivator. It demonstrates to employees that they trust, respect them and take them.

To incentive program to be effective, you need to constantly figure out how to treat them workers, and make timely amendments (Work in Moscow: Search and Resume, <http://www.naim.ru/>). As a rule, companies that use the following feedback form:

- Regular (at least annual) employee satisfaction research workforce;
- Focus groups (usually formed on the basis of a representative sample of workers on standard criteria of gender, age, position, division, group for senior executives can be held separately);
- Structured interviews with workers, informal conversations;
- Open meetings with the leader to answer questions of employees;
- Lunches managers with subordinates;
- Blogs, the Internet, a mailbox for comments and suggestions;
- Interviews with laid off workers.

As part of the need to clarify the impact of the material and immaterial labor motivation of workers, further reflected in Figure 2. Needless to say, Figure 1 contact is divided into left and right sides.

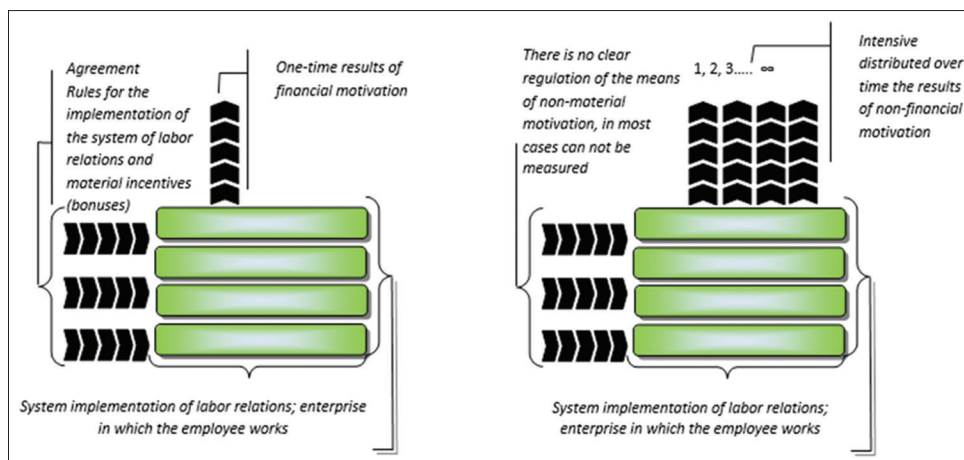
On the left side there are large-sized units “Agreement, the rules for the implementation of the system of labor relations and material incentives (bonuses), which aim to block system of implementation of labor relations; the company, which employs worker” in which the author sold on the idea of a system of labor relations or in general we can say - this is a functional enterprise, with all its infrastructures, fixed assets, labor groups, management system, etc. And the last block of “one-time results of financial motivation” is understood in the study as a short-term condition and intervals during which the worker, material incentives, implementing a reward. The right part of the figure gives an idea that there is no clear regulation of the means of non-material motivation, in most cases cannot be measured (top left box). The results of non-financial motivation presented at intervals of 1, 2, 3, ... ∞ - is intensive, distributed over time the value of social recognition and respect in the workplace, “alignment” to encourage his co-worker’s structural units, an unlimited time period.

### 3. CONCLUSIONS

Thus, summing up briefly, we note that in the current economic conditions, there is a specificity of the Russian material and immaterial labor motivation of workers and staff in general. Presented in the section group material and immaterial motivation to help enterprise managers more effective in motivating employees to understand, competently used to determine the position of non-financial motivation in a particular enterprise.

Path to the effective work of the enterprise worker is through understanding of his motivation. Develop an effective system of forms and methods of work an employee can only know what motivates them, what motivates him to activity, what motives underlie his actions. You need to know how there are certain motifs, as well as in what way the motives may be operated, how the motivation of employees. To increase the effectiveness of work is possible through knowledge of the structure of motives and needs of employees, through specific actions in the words of their manager and recognition to encourage the high results through better information structure, and the structure of decision-making by improving communication.

**Figure 2:** The impact of the material and immaterial labor motivation of workers





The effectiveness of labor activity of workers depends not only on unilateral demands and rewards, but also on the timely attention and partnership with the managers of the enterprise. Questions of motivation rather often have a central role in the life of the enterprise. Employees are motivated then, when the company benefited with joy, enthusiasm, willingness to perform the job and hobbies. The cost-effectiveness of any kind of human activity is largely determined by the objectives pursued, in their basis - the needs, interests, incentives, labor entities.

There are many different theories and models of motivation. Among them are the theory of needs Abraham Maslow's theory of expectations Victor Vroom, the theory of Douglas McGregor, the theory of two factors Frederick Herzberg and others. However, the heads of the enterprises do not look at these works of finished models and schemes for motivating employees, but, having learned for yourself their main provisions necessary to develop a program to motivate employees. It should also be understood that each company must have its own specific program, which would take into account all the peculiarities of the company.

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## **Features Logistics Customs Warehouses in the Integration of the World Economy and the Globalization of Business**

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### **ABSTRACT**

Using logistic approach in the management of export-import trade flows has acquired particular urgency at the present stage of economic development. This is due to the intensification and expansion of foreign economic relations of the state, and the dynamic expansion of the horizontal ties between economic entities of the partner countries. Increased opportunities to improve cooperation by enhancing the economic independence and initiative of intermediaries and transport organizations, improving their contractual relations and mutual economic incentives. Russia is in a better position the intersection of the European transport corridors, which is a prerequisite for the possible establishment of a full-fledged participant in the process of the international movement of goods and services. The implementations of these prospects are largely dependent on the activity of the customs authorities of the country. The introduction of high-quality customs service, the use of effective and innovative technologies in the customs warehousing design and control, is an important characteristic of the customs activity. That is why more attention should be paid to the study of the experience of using the methods of the organization of the logistics system of customs clearance and control.

**Keywords:** Logistics, Bonded Warehouses, Transit, Customs Area

**JEL Classifications:** F6, P3

### **1. INTRODUCTION**

In the context of the integration of the world economy and the globalization of business new requirements to customs, customs should facilitate the development of foreign trade. In the present conditions of the world economy, the aim of facing the customs services around the world is to simplify customs administration with the unconditional enforcement of customs laws.

At the same time, the natural evolution of customs, customs regulation that determined the influence on the process of integration of national economies into the international economic space, require improved technology of customs clearance and customs control. As one of the most important indicators of the

efficiency of the customs system to the forefront to minimize the time spent on customs formalities. After all, the main consequence of the delay of goods at the border is to increase their prices in the country, when it comes to imported products, and the loss of transit traffic, if the goods are delayed, taking place in a third country (goods in transit). In applying the same approach logistics associated with the integration of all logistics operations in the management of export and import flows, it creates a significant reserve total cost reduction.

### **2. RESEARCH THEORY AND METHODS**

Customs logistics - the latest application area of logistics, which connects two distinct but interrelated areas of activity - the

logistics and customs. Logistics activities defines the principles of integrated management of foreign trade in the process of world trade and customs activity aims to ensure the economic security of the state in a globalizing world economy.

In carrying out foreign trade operations, logistics financial flows are divided into two components. The first are the fees paid to the supplier for the goods. A special feature of this shower is the regulation of legislation in most states and international agreements. This also should include the flow of insurance contributions and, when the insured event and insurance payments as well as payments for the supply of goods and warehouse handling. The second part of the financial flow of logistics in foreign trade is customs duties, with which the state regulates the volume, assortment composition and direction of movement of export and import trade flows. With regard to the flow of information, it should be noted that the customs logistics physical movement of goods across the customs border is associated with the implementation of customs procedures using special information technology.

Before proceeding to the main question under consideration is necessary to identify the main components of customs logistics - its substructure. Component substructure customs logistics are as follows (The concept of customs clearance and control in places close to the state border of the Russian Federation, Official website of the Federal Customs Service of Russia, [http://dvtu.customs.ru/index.php?option=com\\_contentandview=articleandid=214andItemid=83](http://dvtu.customs.ru/index.php?option=com_contentandview=articleandid=214andItemid=83)) (Figure 1).

The basis of any logistics around the world - a transport and taxes, while for Russia it is still logistics bonded warehouses, warehouses of temporary storage, the cost of preparing a declaration and customs clearance itself.

Consider the range of services for the delivery, customs clearance and customs clearance which allows unhindered, in the shortest time, the Customs Code, to release the goods at any customs office, any temporary storage warehouse or a customs warehouse in Russia (Customs Code of the Customs Union, 2015).

Finding the goods under customs control prior to placing them under one of the customs procedures (except transit), suggests their placement at temporary storage warehouses (Albekov et al.,

2013). Implementation of long-term storage of goods for a period of 3 years under customs control can be carried out in customs warehouses provided placing of such goods under the customs procedure of the same name. Temporary storage warehouses and customs warehouses can be designed for the storage of goods, belonging to a limited circle of persons (the so-called closed-type) and a commercial enterprise provides a range of customs and logistics services. Temporary storage warehouses and customs warehouses represent a significant part of the customs infrastructure and designed to perform the dual task.

First, on their territory, the conditions for carrying out operations of customs control of goods placed under the customs procedure, i.e.. do not allow their release into circulation until all the necessary customs formalities.

Secondly, the storage space of temporary storage and customs warehouses can be used for warehouse processing of goods, albeit in conditions provided by the law restrictions. The temporary storage warehouse put any imported goods before they are released into the circulation by customs in accordance with the declared customs procedure or other customs authority actions such as confiscation, disposal of goods without payment of customs duties and taxes. For placing goods in temporary storage to the tax authorities served a simplified set of documents: Transportation (shipment), commercial and (or) customs documents containing information on goods, the sender and recipient of the goods, the country of origin and the country of destination. The owners have placed their goods at a temporary storage warehouse, the right to perform operations with the goods necessary to ensure their safety, including to inspect and measure goods, move them within the temporary storage place. However, taking samples and specimens of goods, correction of damaged packaging as well as operations necessary for the preparation of goods for subsequent transport can be made only with the permission of the customs authorities.

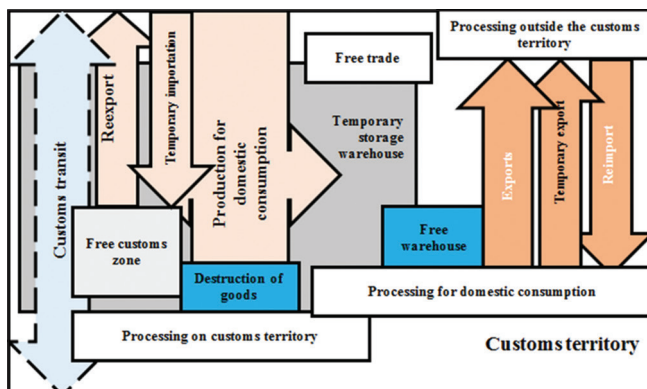
The term storage of goods in temporary storage shall be 2 months and may be extended by the customs authority to 4 months. At the expiration of the term of temporary storage of goods not placed under a customs procedure, detained by the customs authorities.

When placing the goods at the warehouse of temporary storage to the customs authority the following documents: Containing information on the name and location of the sender (recipient) of goods in accordance with the transport (conveyances) documents:

- The country of origin and country of destination of the goods, the name of goods
- On their numbers,
- The number of packages, the nature and the methods of packaging and labeling,
- The invoice value,
- Gross weight of goods (in kilograms) or on the amount of goods (in cubic meters),
- Information on the HS codes at least the first four digits (Customs Code of the Customs Union, 2015).

If the customs authority may not require any further documents for placing goods in temporary storage.

**Figure 1:** Component substructure customs logistics



i.e. in fact, a temporary storage warehouse may be placed with any product of least information about it.

Temporary storage warehouse goods can be stored:

- Any, even forbidden to be imported into the Russian Federation;
- The provision of a minimum set of documents;
- Under the full customs control;
- Not more than 2 months (by permission of the customs authority - 4 months).

In respect of goods placed in temporary storage are not allowed operation of crushing, packaging, repackaging, and other, as well as the transfer of property rights to the products.

Temporary storage warehouses may be open or closed.

Temporary storage warehouses of open type available for storage of any goods and the use of any persons. Temporary storage of closed type are designed for storage of goods or for the owner of the warehouse storage of certain products, including a limited circulation and (or) requiring special storage conditions.

Also, as in the case of customs warehouses, owners of temporary storage warehouses are the customs authorities of the Russian Federation (Customs Code of the Customs Union, 2015). These temporary storage warehouses of customs authorities shall be warehouses of an open type.

In the agreement concluded by the customs authority to the person placing the goods at temporary storage warehouses, subject to the requirements of the civil legislation of the Russian Federation established for a public contract. The refusal of the customs authority of the conclusion of the contract in the presence of the possibility to exercise the storage of goods is not allowed.

Acceptance of goods for storage by the customs authority to certify the issuance of the face, placed the goods at the customs warehouse receipt in the form determined by the Federal Ministry authorized in the field of customs.

The costs incurred by the owner of the goods by placing the goods in temporary storage - payment services for the storage of goods, if the customs warehouse does not belong to the customs authorities, or rigidly fixed payment of customs fees for storage in case the goods stored in the bonded warehouse customs authorities.

Despite the fact that the placement of goods in temporary storage possible when providing fewer documents and does not involve the necessity of placing the goods at the warehouse to pay the fee for customs clearance, compared with the customs warehouse premises goods at the warehouse of temporary storage is not as profitable event. First, the shelf life of products is limited to 2 months, maximum - four. Secondly, in relation to the goods practically not allowed operations to prepare the product for sale.

However, most of the imported goods pass through the procedure of storage at temporary storage warehouses. Why is that?

Placing goods in temporary storage is made both by the owner of the goods - when immediately upon importation into the customs territory of broth product is placed on the temporary storage without application of any regime where filing and waiting mode, and forcibly.

In tough forcibly goods may be placed in the temporary storage in a few cases:

- If you cannot export or non-immediate export of goods prohibited from being imported into the territory of the Russian Federation;
- Detection by customs authorities of goods illegally transported across the customs border, which resulted in non-payment of customs duties and taxes, or failure to comply with the prohibitions and restrictions established in accordance with Russian legislation on state regulation of foreign trade, individuals who purchased goods in the customs territory of the Russian Federation connection with business activities;
- If in the process of customs audit revealed that the goods are prohibited for importation or circulation in Russia in accordance with Russian law, if there is sufficient reason to believe that the seizure of the goods is not sufficient to ensure their safety. In this case the goods shall be seized and placed in the temporary storage (Afanasenko, 2010).

Currently, there is also the practice of placing the goods in temporary storage in a “voluntary-compulsory” order.

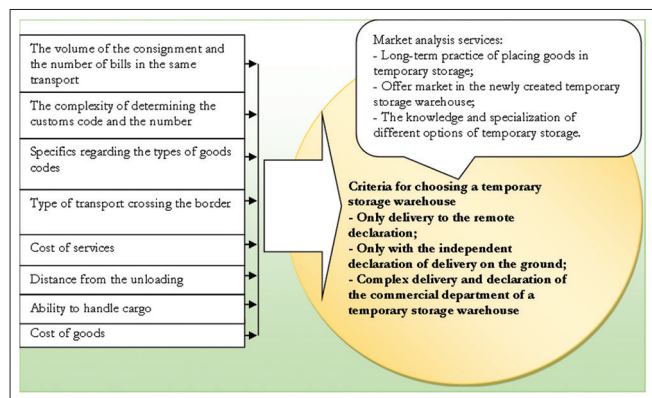
According to the provisions of Article 77 of the Customs Code, goods and vehicles arriving in the customs territory of the Russian Federation and presented to the customs authorities, acquire the status of goods in temporary storage (Customs Code of the Customs Union, 2015). They can be immediately placed in the temporary storage without application mode, and can be declared for a certain customs regime, but the decisions of customs authorities on the issue under the declared customs regime will be expected again in the temporary storage warehouse.

Following a statement by the regime, according to the provisions of Article 360 of the Customs Code, to the release for free circulation of goods and vehicles imported into the customs territory of the Russian Federation, under customs control and, accordingly, should be in the area of customs control, which apply equally and temporary storage and customs warehouses (Figure 2).

Of course, the customs warehouse is a customs control zone, but to get to it quickly, you need to initially declare the customs warehouse regime when declaring goods. Although, even if the declarant declares regime of customs warehouse until the goods are to be released in accordance with this regime, his fate - to wait in temporary storage.

Next, consider Figure 2 on the proposed criteria for the selection of temporary storage warehouses (customs warehouse logistics): High bandwidth, providing smooth customs clearance; the location of the warehouse on the way of transport routes; loyalty to the customs authorities within the area of the warehouse; constructive interaction with the warehouse at the time of customs control;



**Figure 2:** The criteria for selection of temporary storage

Parking is free transport within 2 working days as well as weekends and public holidays; free scan and e-mail transport and customs documents; transparent and clear billing services; competitive price for the commercial part, a terminal processing and storage, when necessary.

Fulfilling all the criteria helps to reduce the cost and time of delivery for this it is necessary to pay special attention to the following: The concerted efforts of all participants in the logistics process - agency customs logistics, owners of bonded warehouse export freight forwarders, insurers, authorities issuing mandatory permits, customs representatives (if they there), the terminal temporary storage warehouse and most party transaction under the contract; choosing the best, the fastest transport route, taking into account the customs warehouses for temporary storage (permanent customs zones, where it is necessary to deliver the goods for storage of goods in a warehouse prior to release on the route); minimum cost of transport costs and tariff Warehouse (Golubchik, 2011). Stored in a customs warehouse, goods placed under the same economic customs regime, i.e., to store goods in a customs warehouse should be issued in accordance with this regime. This product is placed on the temporary storage exclusively by the owner of the goods.

Customs warehouses may be open or closed.

Customs warehouses open type available for storage of any goods and use by anyone - they will have to deal in most cases the owner of the goods. Customs warehouses of closed type, designed exclusively for the storage of the goods of the owner of the customs warehouse.

Owners of customs warehouses may be customs authorities of the Russian Federation. At the same time customs warehouses of customs authorities shall be warehouses of an open type (AISTU, from <http://www.altstu.ru>).

In the agreement concluded by the customs authority to the person placing the goods in a customs warehouse, subject to the requirements of the civil legislation of the Russian Federation established for a public contract. The refusal of the customs authority of the conclusion of the contract in the presence of the possibility to exercise the storage of goods is not allowed.

Acceptance of goods for storage by the customs authority to certify the issuance of the face placed the goods at the customs warehouse receipt in the form determined by the Federal Ministry authorized in the field of customs.

Goods placed under the customs regime of customs warehouse may be stored in a customs warehouse:

- Up to 3 years;
- Without paying customs duties and taxes and without application of prohibitions and restrictions of economic nature;
- Under the customs control;

Despite the fact that in the customs warehouse the goods are under customs control, consignment placed in a customs warehouse, to resolve the customs authority may:

- Fractions,
- Sorted,
- Packaged and repackaged,
- Be marked,
- Of them can be configured to send and perform other operations.

In addition, in respect of goods in a bonded warehouse, may be alienated, the transfer of their rights of ownership, use or disposition - with prior notification of the customs authority in writing.

In the transition of property rights on goods stored in the customs warehouse, the person to whom these rights were transferred agrees to comply with all the requirements and conditions of the customs regime of customs warehouse. Practically, this means that the new owner of the goods will bear the obligation to pay customs duties when goods are placed under the regime for internal use, i.e., with the release of goods in free circulation in the territory of the Russian Federation (Elovoy and Lebedeva, 2011).

In a customs warehouse may be placed and goods previously placed under other modes. Thus, the placement of goods in a customs warehouse is quite attractive event. In fact, the goods, issued in accordance with this regime may be to resolve the customs authority fully prepared to sell to the domestic market: Packaged, labeled, sorted; owner of the goods until the item is in stock, it may look for a buyer, who subsequently pay customs duties and taxes for the release of goods into the territory of the Russian Federation (Table 1).

The costs incurred by the owner of the goods - payment of fee for customs clearance of goods and the payment of rent premises, if the customs warehouse does not belong to the customs authorities, or rigidly fixed payment of customs fees for storage in case the goods stored in the bonded warehouse customs authorities.

Many customs posts match their bonded warehouses (Nikolaichuk, 2011). The value of the bonded warehouse for business and foreign trade is determined primarily by the fact that the goods are placed under this regime, on one hand, fully covered by the common customs and tax regulations, and on the other hand, by means of special customs procedures are given the opportunity to pay customs duties or subject

**Table 1: The main differences between the customs regimes of storage in a customs warehouse and temporary storage warehouse**

Temporary storage warehouse	Customs warehouse
Any customs procedure	Only the procedure of customs warehouse
The term storage of goods in temporary storage shall be 2 months and may be extended by the customs authority for up to 4 months	The term storage of goods in a customs warehouse shall not exceed 3 years from the date of placement of goods under the customs procedure of customs warehouse
Goods is fully under customs control	Goods are under customs supervision, but consignment placed in a customs warehouse, to resolve the customs authority may: <ul style="list-style-type: none"> <li>• Crushed,</li> <li>• Sort,</li> <li>• Packaged and repackaged,</li> <li>• Marked,</li> <li>• They can be formed from sending and other operations performed</li> </ul>
The transfer of property rights to the goods is not permitted	In respect of goods placed under the customs procedure of customs warehouse may be committed transactions involving the transfer of ownership, use and (or) disposal of these goods

to non-tariff regulation measures (quotas, licenses, special permits) only upon the specific transaction. In the practice of foreign trade in a number of cases at the time of import of goods it is not known how dispose of imported goods. Placing goods in customs warehouse facilitates foreign trade operations, as it allows the merchant to choose between re-shipment of foreign goods abroad, or its marketing on the national market, in accordance with the situation on the choice of the corresponding commodity market and other factors.

Using the customs warehouse allows large purchases at the time when the offer on the international market is the most profitable, and sell when the domestic demand of foreign countries will be the most favorable. These benefits are realized to the extent that the law gives the owner of the goods sufficient time to make a decision about the final destination of the goods.

### 3. CONCLUSIONS

In the context of increasing competition becomes important use of bonded warehouses for the buyers of the goods received in order of replacement warranty after-sales service, etc.

Customs warehouse regime has advantages for both importers and exporters. When exporting goods owner is able to provisionally pass all customs procedures related to the export of goods from the country, and then independently, based on the needs of the foreign market and the availability of means of transport, to address issues of export goods.

When you import customs warehousing regime allows a merchant to avoid paying the entire amount due customs payments, importing large quantities of goods. Preference for the importation of large parties explained:

1. Reasons of economies of overhead;
2. "Commercial mobile:" Having at its disposal an ample supply of goods can be guaranteed in the case of contract carriage of goods from the warehouse as soon as possible.

Exemption from customs duties for imported goods placed in a customs warehouse, allows the importer to avoid awkward situations when before the date of the transaction (without any guarantees for a speedy sale of the goods) "frozen" sometimes considerable sums of money going to the payment of customs duties and fees.

Refraction logistical approach to the customs field in general and to the customs warehouse in particular is finding a model of management in foreign trade flows, in which the total costs of the supply chain members will be subject to minimum standards of state regulation of foreign economic activity. Customs Logistics focuses on the planning and organization of the movement of export and import goods flows to meet the requirements of the customs legislation and the use of its capabilities.

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## Economic Security and Organizational Culture: Theoretical Approaches and Categorical Relationship

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### ABSTRACT

Ensuring sustainable growth of the enterprise, to achieve its objectives, meeting the interests of managers and members of the workforce and society in general, are not possible without the development and implementation of effective business strategy, which in the modern economy is largely determined by the presence of a reliable system of its economic security and an appropriate level of organizational culture. Economic security, based on the ability of staff to counter the development of negative risk situations, becomes an important factor for sustainable and efficient operation of domestic enterprises. Of particular relevance acquire economic security issues in connection with the cases of hostile takeovers (hostile takeover attempts) that have been made against several dozen enterprises of Krasnodar Region for 2008-2014. The phenomenon of organizational culture is defined by a set of the most important positions taken by the members of the enterprise and receiving expression in the now claimed values that define people landmarks their behavior and actions. The development of organizational culture in modern conditions has a growing impact on the performance of the company, its market position and its economic security.

**Keywords:** Economic Security, Organizational Culture, Production Efficiency

**JEL Classifications:** D2, D61, O16

### 1. INTRODUCTION

In order to expand the theoretical knowledge in the context of the theory of economic security, awareness of the value of the category of "economic security" is necessary to study the characteristics of the term "security," defining its meaning. From a position of activity approach security - an ideal (perfect) form of activity. In the language of everyday speech is presented as a value concept - the prefix "no" indicates the absence of detected threat (danger). The concept of security correlated object - the process and the subject - the subject of security, there is a perfect action. As the ideal form of activity, safety includes cash opposition "dangerous" reality. Safe operation is, therefore, to overcome the cash dangerous reality. About subjectivity safe operation makes sense to speak not as an individual characteristic or property, as

well as a mode of life in which the essential point is to overcome the danger. Security as the ideal form is manifested in the transition to a dangerous security. Security as a transition is situational event-act (action). The problem is not to achieve "security state" (such states does not happen), and the correlation of two spaces - the "dangerous" and "safe."

### 2. MAIN PART

From the standpoint of objective approach, security - is productive action. "The danger - security" serves as a category of doubles real and the ideal form of existence (being): "Danger" - the real and the ideal, "security" as the real and the ideal. This real form - is cash and impulsive ways to respond to the "properties of objects," and the ideal - that idea, which itself becomes a formalized

response and objects with their properties are starting to act as a support plan for future action - a semantic field (Samsonov, 1994). However, central to this relationship is real and the ideal transition between them: From reality, understood as a natural spontaneity, of course the stereotype, the idea, the concept as a cultural design ("safety culture"). In the analysis of this transition is taken as a specific mode of life of the subject, there are all the numerous and interesting behavioral aspects studied in the behaviorist approach to security. If it gives priority to the problems of development of the ideal form, the safety culture should include as their necessary and significant moment of transition model forms and objects of development.

In the language of the social philosophy of "security" expresses the complex contradictions in the various spheres of social life (in the economy, politics, and international relations), leading to crises and disasters. In terms of socio-humanitarian approach underlying the "sciences of culture," the effects of threats and challenges, crises and disasters usually referred to the problem of values, motivations, attitudes, and their respective institutions, traditions and practices.

Even a brief review of theoretical approaches and the definition of "security" reveals the multidimensional nature of security issues, including a range of social, economic, organizational, managerial and other factors in their relationship and interaction. It determines the complexity of selecting priority measures to ensure security in the broad sense.

The synthetic concept of "security" contains as an essential component of economic security. The term "economic security" by the standards of historical science is relatively young. In its present understanding, he put into circulation in 1934 (Elkonin, 2001; Usiak and Ivancik, 2014). When the period of the great depression, the newly elected US President Franklin D. Roosevelt in his message to the nation used the phrase "national economic security." In Russia, this concept was included in the scientific revolution in the early 90s of the last century, when the transition to a market economy sharply declared themselves contradictions in the interaction of economic entities, different directions of their economic interests in the country, sharply higher economic dependence on the outside world and there threat of losing its independence.

The Law of the Russian Federation "On safety" from 05.03.1992, the state defines security as the protection of the vital interests of the individual, society and state from internal and external threats. In accordance with this definition of economic security is the state of the economy and government, providing guaranteed protection of declared interests and goals of the state against possible threats.

In 1995, the Federation Council was held special hearings on issues of economic security. In April 1996, Presidential Decree number 608 was approved by the State strategy of economic security of the Russian Federation (General Provisions) (Kobersy et al., 2015; The Government's Strategy of Economic Security of the Russian Federation, <http://www.scrf.gov.ru/documents/23.html>). The aim of the strategy of the state in this document has been proclaimed "the provision of such economic development, in which would be

created favorable conditions for life and personal development, socio-economic and military-political stability in society and the preservation of the integrity of the state, the successful opposition to the influence of internal and external threats." It was also formulated an official definition of economic security as "state of the economy, ensuring an adequate level of social, political and defense existence and progressive development of the Russian Federation, invulnerability and independence of its economic interests in relation to possible external and internal threats and impacts" (The General Theory of National Security, 2005).

The definition of "economic security" and its contents for two decades is the subject of intense debate for the scientific community. Only the author's definitions of "economic security," there are over thirty. The result of the analysis was the selection of a number of classifications in the author's approach to understanding the essence of economic security (Table 1).

Analysis of studies examining the economic security of the region showed that the main approaches to the definition of negative impacts on the economic system formulated in 1994, then released a thematic issue of the journal "Issues of Economics" (No. 12). All further development of the existing system on the basis of the positions represented in its domestic economists.

In this edition of Samsonov (Samsonov, 1994; On the State Regulation of Foreign Trade: Federal Law, 1995; Arsić and Krstić, 2015) in relation to the economic system allocates internal and external long-term risk factors, the negative impact on economic security, in particular the stability and sustainable economic development of the country. To external factors, he considers the geopolitical and foreign trade, as well as global environmental processes. Internal risk factors they are divided on the related laws of cyclical development of economic and non-economic system (for example, the conversion of national-state structures of Russia and the statement of principles in their real federalism). The scale and sustainability of these factors lead to the conclusion that they are under certain conditions can have a negative impact on the macroeconomic level and create a real threat to the economic security of Russia.

In our opinion, Samsonov (Samsonov, 1994; Finaev et al., 2015) made a significant contribution to the theory of economic security,

**Table 1: Classification of approaches to the definition of "economic security"**

Classification sign	The defining characteristic
The object of economic security	The vital interests of the individual, society and the state in the economic sphere; national interests; economic interests; National economy;
Property features economic security	the national economy; business entities Independence; stability; sustainability; development; production of economic resources; the level of legal income
The mechanism of economic security	Budget, tax, monetary and investment; institutional, legislative, regulatory, organizational and economic



comprising labeled them the relationship between threats of economic security and long-term risk factors through exceeding threshold value indicators characterizing the risk factors. At the time of exceeding the threshold performance long-term risk factors are classified as the threat of economic security. At the same time our understanding of the relationship of risks and threats is based on the definitions of these concepts lies in the occurrence of a certain (threshold) the probability of damage to the economic system. According to Prohozheva (The General Theory of National Security, 1995), the definition of the threat through the danger is quite self-sufficient and universally for all types of security. Security threats are objective in nature and result from the clash of interests of individuals, social classes, classes of their interaction in the process of social development.

Classification of threats to internal and external works presented in Bogomolov (2006; 2009), Dronov (2001), Ismagilov (1999), Oleynikov (Economic and National Security, 2004), Ismagilov et al. (2001), Stepashin (The Economic Security of the Russian Federation, 2001), and others. For example, subdividing a threat to internal and external, Dronov (2001) concludes that economic security threats or any form of damage usually leads to material and financial losses, which adversely affects the balance of payments. He understands the internal threats to the factors causing the crisis of economic security. The author distinguishes among internal threats to active and passive. The first group he includes those that require immediate intervention of the state and to the second - the ones that will certainly need to be addressed, but their economic content are some objective reality, and no government decision is able to cancel them.

Despite the theoretical and practical significance of the category of “a threat to economic security,” the analysis shows that a unified approach to the definition of this concept is not yet. Most often, the authors do not offer a definition, limited to the negative effects that, in their opinion, are the threats (or other categories) economic security. A detailed analysis of the terminological aspects of the problems of economic security taken Afontsev (2001), which defines the threat to the economic security of both endogenous and exogenous shocks, economic or political origin, can destabilize the national or international economic system.

The interpretation of the category of “economic security” in the scientific literature is different. So, for example, starting from the point of view Bogomolov “... economic security of a system is understood as a set of features of the state of its production subsystem that provides the probability of achieving the objectives of the system as a whole” (Bogomolov, 2009; 2006). Just not allocating levels of economic security, the author stresses that this concept is applicable to a variety of subjects: Individual citizens, private businesses, state-owned enterprises, the national economy, the state as a whole.

Antonov believes that “economic security is a system to protect the vital interests of the country. The objects of protection are: The national economy as a whole, some regions of the state, the individual sectors and spheres of the economy, individuals and legal entities as subjects of economic activity” (Shkurkin

et al., 2015; Antonov, 2008; Mirzabaev et al., 2015). According to Balyasny “economic security is a state of the economic system, allowing it to develop dynamically, effectively solving social problems, in which the country can build and implement an independent economic policy” (Balyasny, 2008; Popkova, 2015).

In modern conditions, the successful operation of the process and economic development of Russian companies is largely dependent on the improvement of their activities in the area of economic security (Bogomolov, 2009; 2006). The main factors negatively affecting the safety of business activities in Russia are the following:

- Active participation of representatives of the government and management in the business;
- The use of criminal organizations to influence competitors;
- Weak effectiveness of laws designed to counteract the unfair competition;
- The absence of favorable conditions for scientific and technical research;
- Deficit detailed and objective information on the subjects of entrepreneurial activity and their financial position;
- Low level of culture of doing business in the business environment;
- Use of illegitimate, operational and technical methods to obtain the necessary information about competitors.

With the development of market relations in Russia, the problem of economic security, that is, to minimize the risks and threats of reflection, comes to the fore, for such judgments is a very good reason: Lack of development of the insurance market, the lack of regulatory support for the evaluation and protection of intellectual property, the lack of entrepreneurial culture among businessmen. An important role is played by contextual factors: Blurred value orientations of citizens, instability and pronounced fiscal nature of tax legislation, the active development of information technologies that require significant resources to protect the information. The massive appearance of virtual enterprises creates another “painful” point in the economic security of entrepreneurship. Virtual enterprise is a low proportion of physical capital and the orientation of the founders mainly on information technology. One cannot be called and a sore point, as the deformed social and labor relations, directly affecting the security of the country as a whole, and each enterprise. Deceived people cheating the state and does not see anything wrong. This is manifested in the evasion of employers and employees from the payment of taxes and charges on wages. Recently, serious declares itself a new problem area for the country - property relations and economic interests of the owners, managers, staff, contractors and partners of joint stock companies. The second waves of property redistribution significantly affect the level of economic security.

Practice shows that more and more security forces are unable to provide reliable protection of the economic interests of the enterprise, such as economic efficiency and financial sustainability. The basis of this judgment based on the following reasons: Economic security - a multi-faceted area of management, which fall within the scope of all kinds of resources of the enterprise,

requiring attention from all the services; come to the fore functional and psychological relations workers clash of economic interests, so the focus is on organizational and psychological aspects of economic security, which is a prerogative of personnel services; a comprehensive study of the influence of factors external and internal environment is replaced by marketing, that is, the study of the company's position in the market, as a result of information asymmetry effect is manifested when economic relations with partners are unpredictable.

The above factors make legitimate conclusion that the problem of economic security is not just a date, and a priority among the major challenges of the market economy in Russia. Successful defense enterprises from security threats depends on a systematic approach to the problem involves the participation of various services for early warning of danger, control of the situation. Terms of economic security are:

1. The analysis and assessment of threats
2. Planning measures to contain threats
3. The implementation of measures to address threats.

Methods of ensuring the economic security of the enterprise - a set of measures and the system of organization and control of their implementation, which allow to reach the highest values of the level of economic security. General block diagram of the process of ensuring economic security includes the following steps:

1. Strategic planning and forecasting their economic security
2. The strategic planning of financial and economic activity
3. The analysis of the level of economic security
4. The present plan of economic security.

In the context of the question, we note that the financial and economic crisis is usually a negative impact on the potential of industrial enterprises: Reduced investment into the process and product innovation, does not provide adequate dynamics of development, the company is losing market share, and therefore profits, deteriorating financial and economic state enterprises, aging and wear fixed capital depleted technological advance, leaving the most qualified employees. In the stable functioning of the enterprise in solving their economic security emphasizes the focus on maintaining the normal rhythm of production and sales, on the prevention of material and/or financial harm to prevent unauthorized access to proprietary information and destruction of computer databases for countering unfair competition and criminal manifestations.

Production sphere efficiently operating businesses in a timely manner if it is subjected to necessary modernization, not a source of economic disadvantage (economic hazard) for staff of the enterprise and its owner, and for those market agents who are products of the company, i.e., its subcontractors and customers. In crisis periods of greatest risk to the enterprise is the destruction of its potential (industrial, technological, scientific, technical and human), as the main factor of life of the enterprise, its possibilities. At the same time economic conditions are such that do not provide the ability to reproduce building. Resources for this company can only buy from the results of the activity (or rather - depreciation and profit), as well as borrowed funds. Both of these sources of

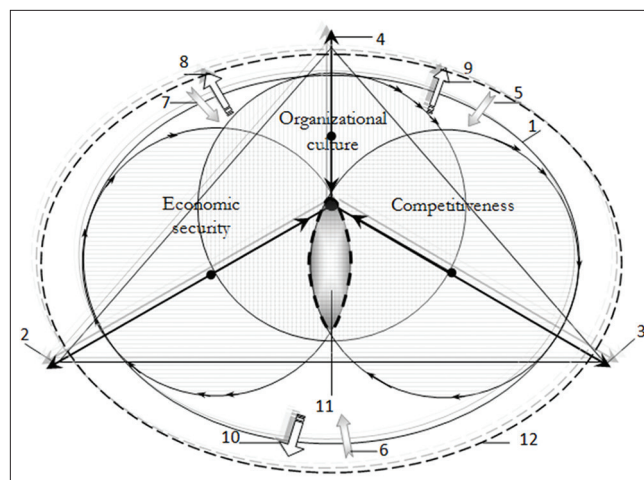
investment in a crisis situation at the enterprise, as a rule, are blocked.

Measures to ensure the safety of information on a single enterprise can be different in size and shape, and depend on the industrial, financial and other capabilities of the enterprise, the quantity and quality guarded secrets. The choice of such measures should be implemented on the basis of the principle of reasonable sufficiency, keeping in financial calculations "golden mean," since excessive closing information as well as the neglect of its preservation, can cause the loss of a certain percentage of profits or lead to serious losses.

Given the range of possible threats to economic security, protects all types of resources involved in order to achieve economic and social goals of the enterprise. It should highlight the following areas: Physical security of business activity: Buildings, vehicles, machinery, inventory, raw materials and financial resources; information security and protection of information networks, resources, software, and intellectual property and other intangible assets, including property interests of participants in entrepreneurial activity; legal security, which is understood as a competent and correct registration of the rights, procedures and performance conditions (statute, registration documents, ownership of property, patents, licenses, rentals and counterparty agreements, contracts, accounting records, and others.); the safety of personnel, safety, personal safety entrepreneur, top management, security, business relations.

Copyright vision components of economic security comes from the fact that it is provided by the interaction of three areas: Economic security, organizational culture and competitiveness of the enterprise (Figure 1), including the relationship of external and internal environment. From the external environment, the

**Figure 1:** The structure of the conceptual triad of ensuring the effectiveness of the company



**Note:** 1 - boundaries and scope of operation of the business; 2, 3, 4, - vectors of the quality criteria of the enterprise; 5, 6, 7 - incoming information; 8, 9, 10 - emerging results of the internal functioning of the enterprise in the market of goods and services; 11 - the intersection of the triads, the field performance of the enterprise; 12 - market goods and services

company enters into the flow of information about the position of the company, the possible risks and threats. Given this information, construct production and business activities of the enterprise through the use of internal resources, including the possibility of organizational culture to encourage joint efforts to stabilize the team and improve the economic situation of the company, its transition to a higher level.

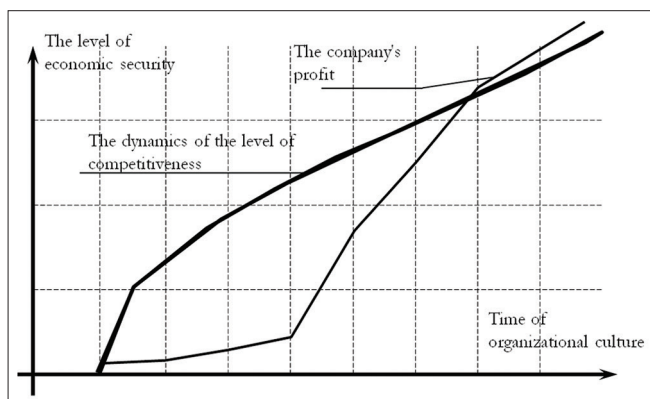
The proposed conceptual triad of ensuring the effectiveness of the company is shown in the boundaries of the market for goods and services. Vectors performance measures of the company are carriers of data requirements and the needs of both the external environment and from each category represented by us. For example, the vector of the category of “organizational culture” in the external environment contains information concerning the qualitative and quantitative characteristics of the staff of the enterprise.

It should be noted that effective enterprise - the enterprise is able to resolve conflicts internal integration and external adaptation process of economic security. Effective enterprises are further characterized by adaptability, a condition in which the company responds flexibly to customer requirements, takes risks, learns from its mistakes and is able to change. For such enterprises the important factor is the implementation of the mission (strategic development of the company based on the prevailing view of the future).

The objectives of the interaction vectors of development of organizational culture and improve the safety of the company focused on providing and maintaining its level of competitiveness. It seems appropriate to highlight the cycle of phenomena - characteristics of the enterprise: “Organizational culture - economic security – competitiveness.” Interconnection elements cycle is shown in Figure 2 take what is economic security as a problem field of economic knowledge in the thesaurus? Here is the author’s interpretation of the term of the test.

In our view, “economic security” is always contextual, and refers to the definition of education is usually used with the addition of (security of the person, society, the state, enterprises, business) and characterizes the ability of education to self-realization in the

**Figure 2:** The dynamics of capacity building enterprise competitiveness in the coordinates of its level of economic security and development of the organizational culture of the time



conditions of the presence and action of destructive factors. In the analysis of the security in the economic sphere every education must be seen in three dimensions: As a security object, as the subject security (and other private entities), as a source of danger. Therefore, deliberate narrowing of the problem is the reduction of security only to protect, but the problem of economic security is often regarded as self-sufficient and do not have a clear link with the real issues of economic policy. Thus, economic security includes not only the preservation of certain existing provisions (or improving to some extent), but also create opportunities for reaching a new qualitatively higher level of development. In other words, security - not so much a constant state of productive forces and relations of production, as the ability to grow and prosper in conflict, uncertainty and risk.

### 3. CONCLUSIONS

In summary, we note that in general, the economic security - a priority qualitative characteristics of the economic system (in our case - the company), which determines its ability to maintain normal living conditions of the population, sustainable resourcing of the national economy. Based on the understanding of the nature and structure of economic security in the next section we consider the performance of the research and the basic characteristics that are the problem field of the category of “economic security” company.

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## **Factors of Providing Food and Economic Security of the State and its Regions**

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### **ABSTRACT**

The present article highlights the development of the theoretical and methodological approaches to definition of subject domain of regional economy and ensuring stability of regional development. The main subject of this research is the grain production complex as reproduction system, taking into account its role in ensuring food security of the country and its regions. Results of research offer the effective proof to that the grain independence represents the function from the existing solvent demand of the population for food. In the absolute parameters, it is sufficient for full providing which allows the effectively usage of stimulation factors of grain farm development within policy of national security. It also becomes a major factor of providing food and economic security of the state and its regions in modern conditions.

**Keywords:** Regional Development, Reproduction, Grain Independence, Sustainable Development

**JEL Classifications:** P25, Q01

## **1. INTRODUCTION**

At the moment, in Russia there is no effective regional market economy with highly productive agrarian sector. It shows in sharp increase in food prices, which is specific to the Russian economy. Essential transformations in structure of property did not yet provide the restoration of pre-reforms on physical volumes of a regional product, agricultural production, fixed assets and investments into fixed capital. More than a third of agricultural producers of various forms of ownership continue to remain unprofitable.

In the conditions of the imposed economic sanctions the provision of the agro-industrial enterprises' majority and organizations worsened for the reasons of low competitiveness of agricultural production and production of the food industry both on internal, and in a foreign market. If change do not come soon the main reproduction conditions, both in the Russian agrarian sector in

general, and in its regional subsystems, the overwhelming number of the enterprises and organizations will become unprofitable.

## **2. MAIN PART**

Grain production complex, being the largest sector of regional agro-industrial production, traditionally acted as a basis of formation of the major proportions of regional social and economic development. However, in post-reform years cultivated areas under grain crops and gross collecting grain in weight after completion were considerably reduced. Besides there are huge losses of grain during the transporting, storage and processing, a double excessive consumption of sowing material (in comparison with the average world indicators) and many other tendencies that conducts to reduction of the absolute income of agricultural producers. With all that it implies the negative consequences including regional economic development level.

It is possible to balance a situation in a grain production complex by means of increasing efficiency of the regional grain markets system functioning. Now they are in an unstable state that leads to technological and technical degradation of branch, considerable disparity of the produced and purchased production's prices, a shadow turn of grain and the products made from it, growth of unemployment in agrarian sector, etc.

The experience of the developed countries shows that the developed mechanisms of the market relations in the sphere of agro-industrial complex and a regional grain farm functions for realization of all participants' interests. For example: Direct producers of grain and end grain products, the people as consumers of this production, authorities as the participants interested in increase of fullness of regional and local budgets and providing the population with qualitative food (Novoselov, 2009; Novoselov and Novoselova, 2015).

However, discrepancy of the market relations is in a nowadays Russia functionally provide the super income of the narrow elite, corporate groups and intermediary organizations which are carrying out activity in the regional grain markets that significantly limits possibilities of consumption to a general population. The do not allow the main number of the subjects managing in grain branch to gain income sufficient for normal reproduction. Relevance of a solution to the problem of developing the regional the grain production of complexes, increases the efficiency of the grain market functioning. Insufficient study of many scientific and practical aspects, their importance in reliable providing consumers with grain and the products of its processing connected with food independence, national security predetermined a choice of a subject of research, and the wide range of questions considered in it.

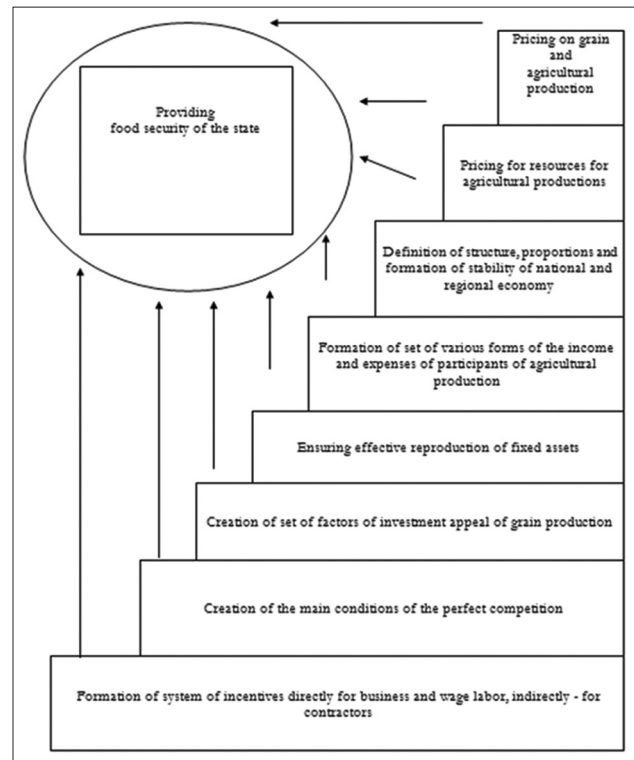
The food security includes not only consumer aspect (taking into account physiological norms), but also production (due to development of own production and necessary import of agricultural production and the food) (Figure 1) (Novoselov, 2009). Each structural element of an agrarian policy in narrow sense has one general purpose – ensuring food security of the country, which is concretized on each of the directions (Figure 2) (Novoselov, 2009).

Therefore, the general purpose for agricultural policy is ensuring food security of the country – increase of agricultural production efficiency; for agro-industrial policy – it is increase of the branches efficiency, which is connected to the agriculture. For food policy – the same goes for ensuring the guaranteed access for the population to food; and for a foreign trade policy – increase in profitability from the foreign trade transactions.

It is also necessary to limit the super income of agricultural products' processors and resellers. So, for example, at rate of return from 21% to 25% it is quite possible to establish norm of the taxation in 40%. And at rate of return from 25% to 30% the tax has to make 70%.

In addition, at rate of return over 30% - the tax has to reach 100%, i.e., to be prohibitive in fact. The corresponding adjustments are necessary and for a value added tax.

**Figure 1:** Functional features of the grain market



Thus to leave taxes on the income of natural persons at the former level as in this case tax tools have to influence proportions of use of the created product, but not the absolute sizes of the income.

Tax tools have to become the main instruments of the offered market principles' realization, of restructuring the economic communications within a regional grain production complex. These are economically fair and acceptable measures, which are not demanding repressive potential.

In modern crisis conditions, everything rises a question of maintaining the food security of Russia at the necessary level, i.e., increase in a domestic production of agricultural production and food of the corresponding quality more sharply. Our opinion is that only external support, first of all from the state, can provide implementation of requirements of food security amplifies and it is necessary to use more actively measures of customs regulation of import of import products.

On the one hand, the active role of the state in ensuring food security is indisputable, is confirmed by numerous examples from foreign economic practice. On another, – bases of any operating factor have to be coordinated to bases of the existing economic system, i.e., it is expedient to ask a question, how food safety of the country is ensured by effective functioning of national economy.

Considering possible further transformation of the content of category of the national security including and food, it should be represented as function of all national economy, considering it as process, a condition of all system of the economic relations.

**Figure 2:** The interrelation is more whole than various structural elements of an agrarian policy in the context of influence of development of grain branch on food security



From these positions, it is possible to approach a backbone role of economic security. At the abstract level it turns out that whatever essence of social and economic system was formed, it will only take place in reality if it is under the influence of the feedback, then it does not lose the main characteristics. In relation to the phenomena of the economic contents, it defines a place of economic security category both in system of national security, and in system of the formed model of the social and economic relations (Shkyrkin et al., 2015).

In market economy, it means functioning of the effective mechanism of the reproduction satisfying to material interests of all main participants of economic processes.

In our opinion, exactly in this context it is necessary to perceive the definition of food security presented in the Rome Declaration of the World forum which took place in November, 1997 on which the need of ensuring access of all people to the food demanded for healthy and active life was emphasized at any time. Such broad

providing with the food is possible only on market conditions as the state measures of it not to solve.

Therefore, speaking about food security, expediently it isn't simple to stop on criteria of availability of necessary food of appropriate quality for the population, and, first of all, to address that at the heart of its functioning there have to be direct motives of activity of agricultural producers. There is quite a lot material written on the topic, it is emphasized that at all levels of the power measures for development of production of agricultural production only from the technological and technical parties are taken, and without economic and material incentives no technology can be executed.

Thus, even at increase in expenses of the Russian budgets of all levels at agriculture several times the main questions will not receive the final decision. First, for the reasons sharp as it was already noted, discrepancies of the sizes of money sums. It is necessary to look for such forms and methods of a grain production support complex which will be based on the internal

market reproduction principles and through real realization of interests of agricultural producers also the countries will ensure food security. Especially as our population spends quite enough funds for acquisition of food.

In such conditions, the Ministry of Agriculture analytics are rather actively engaged in the search of ways of overcoming the financial insolvency of agricultural producers. However, generally they follow the traditional way. At first, the known specifics of financial and economic activity of the agricultural organizations caused by action of the following factors are defined:

- Seasonal, cyclic nature of production;
- The increased risk and rather extended time period of production of agricultural production which is characterized by dependence of productivity of plants and efficiency of animals from natural factors (a drought, frosts, natural disasters, etc.) that complicates forecasting (even for 2-3 years) possibilities of restoration of solvency of the organization;
- The variety of agricultural business caused by diversified specialization of production in animal husbandry and plant growing, etc.;
- Lower values in comparison with other branches of economy norm of accumulation of the capital;
- The social importance of the agricultural organization for the territory in which it accommodates.

Features of the property relations in agricultural branch are:

- Special nature of land use with use of lands of agricultural purpose as the main means of production;
- A big share in property of the agricultural enterprise of the objects of the social sphere and engineering infrastructure serving all adjacent territory;
- Big share of illiquid property (especially immovable) enterprise in a property complex;
- Existence of the property (cattle, plants) demanding a permanent care and financial expenses.

It is necessary to mention the specificity of the situation. It is quite often arising when carrying out concerns of the agricultural organization of bankruptcy process as often the employee of the agricultural enterprise is also its owner (in agricultural production cooperative, open joint stock company), and the creditor (the existing debt on a salary, on payment of compensations of social character).

Experience of application concerning the agricultural organizations of bankruptcy procedures convincingly shows that process of solvency restoration and improvement of business economics with use of the available mechanisms is still inefficient.

Meanwhile, consequences of the bankruptcy procedures which are carried out concerning the agricultural organizations have great negative value for social and economic life of certain rural settlements, districts, and often and the whole areas.

In case of large-scale application to the enterprises of agricultural sector of bankruptcy complex procedures of this, sort negative

consequences can be characteristic for the whole regions of the Russian Federation.

It causes the state scale of the existing problems, and possibilities of government's active participation in process of bankruptcy of the agricultural enterprises are significantly limited now.

The solution of the insolvency problem of the agricultural enterprises demands the increases of economic efficiency of their economic activity, the directed various forms of the budgetary support, including gratuitous subsidizing of production of separate types of products, subsidizing of costs of acquisition of separate types of material resources. It is possible to carry to these measures also various programs of granting to the agricultural organizations of the budgetary credits providing preferential in comparison with the commercial credits, conditions of their repayment.

Thus, according to preliminary estimates, the results of carrying out procedures of financial improvement in the Russian Federation note some increase in number of the agricultural producers who restored the solvency with an exit to qualitatively new level of development of production. However, the majority of the enterprises is in the severe financial conditions demanding development of a complex technique of a financial condition analysis of the agricultural organizations for forecasting the inability of the re-structured debt repayment and probability of the debtor's bankruptcy approach.

In our opinion, practically all existing indicators have direct dependence on price level. Therefore, it is necessary to consider not the measures of financial improvement by means of the analysis on the specified indicators, and to achieve efficiency within a state policy in the field of pricing, improvement of the financial position of the enterprises estimated on these indicators.

It is remarkable that on this background many agricultural producers of Russia and the South of Russia show rather steady and profitable indicators of the activity. However, speaking about the contribution of agricultural production to a gross regional product, the return picture turns out, i.e., because of the bigger specific weight of agrarian production the general indicators of VRP appear to be lower.

As the advantages of the North Caucasian and Southern federal districts being in more favorable conditions for agro-industrial production are unrealized, it is necessary to analyze a fortune its main making, first - a grain farm (Novoselov, 2009; Novoselov and Novoselova, 2015; Taranova et al., 2015). In this analysis, it is necessary to find out the main issue: How external and internal conditions of managing are predetermining such phenomena when favorable factors are used so inefficiently.

Without the necessary measures soon, the situation with the leading region on agricultural production continuing to remain the least productive from positions of creating the gross regional product can amplify.



According to the main macroeconomic characteristics, production of grain crops and products of a grain recycling has enough favorable factors for effective development. First, this increase in population of the planet predicted by experts and the corresponding increase in demand for grain and products of its processing owing to what the enterprises of domestic agricultural industry will be able to expand the export. To use the tactical factors of the world market, it is necessary to solve a number of economic, organizational, and administrative problems.

Therefore prospects of development of a grain farm of the North Caucasian and Southern federal districts are very closely connected with realization of the balanced diversified regional marketing policy. This connection is shown on various categories of the markets: Intra-regional, interregional, all-Russian, with the countries of the Customs union and the commonwealth, with foreign countries that will allow to provide stable profitability of production at changes of productivity and a price environment.

Economic problems of the grain producers of the enterprises are interconnected, on the one hand, with development of a domestic production of grain crops, with another - with dynamics of import of similar production. However, the main aspect is a ratio of expenses and results of own production. In addition, in these parameters the grain producing organizations of the South of Russia appear on one of the best places in the country. But, apparently, real market advantages are missed. Lower expenses are not so much defined by the proceeds from sales of grain, unlike the price factor (Alikaeva et al., 2015; Novoselova et al., 2015).

In such situation, enterprises that are more effective and the organizations appear in losing situation that it is not necessary to allow at implementation of the state agrarian policy.

It is possible to achieve such balance of interests by means of realization of a pricing policy, which basis is represented by actions of the state. First, on maintenance of high level of the world prices for grain and grain products, secondly, on restriction of growth of expenses of their processing, thirdly, on restriction of the exclusive power of processors of agricultural raw materials, fourthly, on prevention of excessive trade price extra charges.

Based on the statements above it is expedient to formulate the following conclusions.

First, within the last decades with different degree of activity there was a process of formation of new agrarian structure of Russia, which isn't finished yet, and its results cannot be unambiguous and standard.

Secondly, the sectorial structure of gross output of agriculture, land use and employment have essentially changed. The share of the large agricultural enterprises decreases, the share of family enterprises and farms increases. The monopoly of the state for the earth is eliminated; the private landed property in agriculture is formed. However, the last processes were slowed down in recent years.

Thirdly, there was a new form of managing in agrarian production - country (farmer) economy. Thus, this economy remains insignificant on scales; the farming did not become the leading sector of agrarian economy. Process of increase in the average size of farms, concentration of production in the most large-scale enterprises and, with another - transformations of smaller farms into subsidiary farms is observed, on the one hand. The highest rates are characteristic for the farms founded in the first years of reforms when they were given noticeable state support.

Fourthly, the sector of personal subsidiary farms developed rather actively and steadily, its role increased in life support of country people and food supply of the cities. Especially important is the role of LPH in depressive regions, providing a minimum level of consumption and employment of the population.

Fifthly, the large agricultural enterprises remain the main producers of grain and commercial crops. Found the place in market economy of poultry farm and other enterprises of industrial type. During reorganization the average sizes of agricultural enterprises decreased, their legal form changed. Among legal forms production cooperatives, joint-stock companies and limited liability companies prevail.

Sixthly, there is a burning issue of development of the relations of a private property on farmlands. On the one hand, needs of the population of the country for the land plots for LPH, gardening and truck farming are almost satisfied. However, processes of privatization of lands of agricultural purpose do not allow to create the effective market yet and to provide transition of the earth to effective users.

Seventhly, despite noted structural changes, the carried-out agrarian transformations did not create comprehensive conditions for growth of economic efficiency of agriculture of the South of Russia. Are the reasons of low production efficiency in agrarian sector:

- Lack of price macroeconomic stabilization in the country in general, disparity of the prices and adverse conditions for development of agrarian sector connected with it;
- Incompleteness and incompleteness of the begun institutional transformations;
- Backwardness of market infrastructure (information system, financial and credit mechanism of agrarian and industrial complex, organized markets, system of insurance, etc.), regional trade barriers and intervention of regional administrations in the agro-food markets;
- Irrational state support of inefficient farms;
- Incomplete performance of the adopted laws by authorities, contradictions between federal and regional approaches to implementation of reforms, etc.

Eighthly, the situation in agrarian sector differs in instability and uncertainty. A number of factors stimulate further concentration of controlling stakes (shares, shares) in hands of rather small amount of the owners who sometimes are not related to agriculture. Problems of rent of lands for agricultural production are respectively formed.

### 3. CONCLUSIONS

The above-stated factors in essence are nationwide. Therefore there are also measures for their overcoming. Earlier noted heavy economic and social situation of agricultural producers remains the national trouble for many years. Therefore, agricultural producers, working with everyone inside their own market, will not be able to provide the demanded synergy effect in reforming of the Russian agricultural industry.

The main subject, the participant of the processes happening in agricultural industry that is able to become a peculiar guarantor of possible synergy effect, the state is.

Therefore, the system of the state support and regulation of a grain production complex becomes the following investigation phase objectively. Thus, in our opinion, it will be required to step away from simple and widespread understanding of the state participation as main regulator of economic processes. It is very important not to mix problems of strengthening of the state providing normal functioning of agrarian economy in the course of its reforming with desire of strengthening the powers of officials' authority and bureaucracy. Strengthening the state in effective limits is always positive, however the excessive increase in officials, bureaucracy and the corresponding strengthening of corruption becomes a serious, and at times and absolute obstacle of development as it repeatedly was in national history.

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## **In-University Quality Management System of Education Based on the Competence Approach**

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### **ABSTRACT**

This article considers the system forming elements of the concept of quality of natural science education in the field of providing educational and research services of higher education. The authors have proposed a model of quality management of the higher education establishment work based on the working processes and the competence approach to education. The basic elements of the model of quality management of higher education establishments' work based on the working processes and the competence approach to education are defined; the criteria and sub-criteria allocated from the point of view of their development by the levels of perfection or stages of development are set up. The necessity of implementation of the in-university quality management system of the quality of higher education establishment's work on the basis of the working processes and the competence approach to education is substantiated, based on the principles of the students' activity and the need to introduce innovative and interactive forms of organization of the educational process by using modern communication and educational technologies.

**Keywords:** Educational Innovations, Higher Education, Professional Competency

**JEL Classifications:** I23, O3

### **1. INTRODUCTION**

In the modern education of Russia, when there are active changes in information, scientific and technical life, the idea of qualitative education and improving its quality is particularly acute. Modern education system has relied on information technology and computer telecommunications increasingly. The system of distance learning is developing especially dynamically, aided by a number of factors, and mostly by equipping educational institutions with powerful computers and development of the internet networks' community.

Lecture and seminar form of training has lost its effectiveness long time ago - the practice proved that nearly 50% of study hours is wasted. Studying foreign experience, we can distinguish the

following important aspect: The teacher acts not in the role of the distributor of information (as it is done traditionally), but in the role of a consultant, an advisor, sometimes even a learner's colleague. This gives some positive points: Students participate more active during the learning process; they learn to think independently, to introduce their point of view, to simulate real situations.

The key objective of vocational education is currently considered as the formation of such a complex structure as a professional competency. The competences for the student are the image of his future, a landmark for mastering. Educational competencies reflect the subject – activity component of general education; they are aimed to ensure a comprehensive attainment of its objectives. Thus, an electronic textbook is a means of competences development of the students of pedagogical universities.

The development of information technologies has provided a new and unique possibility of the lessons organization – conducting them with the help of electronic textbooks. Firstly, it allows the learner to choose the time and place for learning, secondly, it gives the chance to receive education for those, who are disable to obtain the traditional forms of education because of various reasons, thirdly, to use new information technologies in studying, fourthly, to some extent, it reduces the cost of the training. On the other hand, learning using electronic textbooks increases the possibilities of individualization of learning. This fact solves the problems of education, which are very acute in traditional teaching methods.

The advantages of electronic textbooks in Chemistry, in our view, are the following. At first, it is their mobility; at the second, it is the availability of communications with the development of computer networks; and at the third, the adequacy with the level of development of modern scientific knowledge. On the other hand, the creation of electronic textbooks in Chemistry also contributes to the solution of such a problem as the constant updating of information material. They may also contain a large number of exercises and examples; different types of information can be illustrated in the dynamics in them. In addition, with the help of e-books the control of knowledge - computer testing - is held.

The practice of using electronic textbooks in Chemistry showed that the students learn the described material efficiently; this fact is reflected by the test results. Thus, the development of information technologies provides a wide opportunity for invention of new methods and techniques in education and thereby improves its quality.

## 2. LITERATURE REVIEW

The theoretical and methodological basis of the research was made of: The philosophical vision of informative society; the humanistic ideas of socio-cultural orientation of education; the study of value-motivational sphere of personality, the concept of construction of education, the technology of education, the concept of personality-oriented education; the terminological definition of the concepts like “a competence,” “a competency,” “professional and information competency” based on works of the foreign and Russian authors; the conceptual approaches of professional development; the ideas of context and context-competency approach in vocational education; the fundamental developments in the field of informatization and implementation of media means of education, the pedagogical theories of social experience formation under the impact of the information space and the idea of pedagogical project work (Nelyubina, 2005).

While solving the stated problems and justifying the conclusions the following methods were used: Theoretical and practical.

## 3. RESULTS AND DISCUSSION

In recent years the problems of the quality of natural science education in the field of providing educational and research services in higher education has got a recognized actuality.

The quality of education is a set of characteristics of professional consciousness, reflecting the ability to perform professional activities in accordance with the requirements of the modern stage of economic development, at a certain level of performance and professional success with an understanding of social responsibility for the results of one’s professional activity (Kivlyuk, 2014).

The quality of natural science education characterizes not only the result of educational activity – the characteristics of a specialist as a graduate of a higher educational institution, but also the factors of the existence of this result. They are:

- The quality of the goal of education (seen by the education authorities, teachers and students);
- The quality of potential in education (resources and conditions of their use);
- The quality of the legal-organizational equipment of education;
- The quality of a student and student groups;
- The quality of teaching staff and teachers;
- The quality of logistical support of educational process;
- The quality of information (bibliographic) and methodological support;
- The quality of educational program and technology of education;
- The quality of educational work in the higher education establishment.

All those are the characteristics, which formation is in need of being deliberately affected, and must be managed. What should the mechanism for such management be like, how is to form and use it? It is impossible to expect a solution of the problem without answering this question. By means of strengthening the requirements to the quality of education you can achieve some improvement, but it won’t solve the problem fundamentally (Stetsenko and Yaschuk, 2014).

The successful solution of the problem of the quality of natural science education is mainly determined by the availability of scientific concept, which provides a framework of practical actions in this direction (Alehin, 2014). Currently, however, sometimes there are many different approaches to both the understanding of the quality of education and the ways and means of its increase. In one case the main focus is on the qualification of teaching staff, in the other it’s on the technology of education, in the third it’s on the composition and structure of academic disciplines. Of course, all these are very important factors of the quality formation, but they appear only in their interaction, which depends largely on the general and specific conditions of the development of education. In addition, a set of quality factors is very extensive and varied, and must be considered in its entirety of composition and interactions. It is necessary to develop a system of quality motivation and integrated management of all its aspects. It is also important that all the participants of educational process – from students to educational and support staff - should be involved in the solution of quality problems (Gaynutdinov, 2014).

Education needs the system of quality management that each higher education establishment must have. Such system



is impossible without a modern, comprehensive system of evaluation of both the quality of education in the whole and its components separately. The more accurate the estimation is held and the characteristics are taken into consideration the better the quality of education can be controlled (Robert, 2014).

Besides the evaluation of conformity degree of the results of the process to the requirements, we must have a conclusion on the quality of the process of providing these services, i.e., how perfect, ordered, organized, stable, secured it is and if it is aimed at preventing the occurrence of deviations or discrepancies, etc. This will provide an objective assessment of the quality of the results of educational and research services of the higher education establishment.

Thus, the quality of the results of the higher education establishment work should be provided by the management of the quality of its core business processes. A measure of the quality of such processes is usually the degree of assurance that the provided educational or research service will exactly meet the requirements of the consumer (Nelyubina, 2005).

The proposed model and criteria of the effectiveness of the in-university quality system can be used for a self-evaluation and identification of the ways of improvement of the higher education establishment work, and will also let the higher education establishment prepare for an external check during the certification examination. The self-evaluation can be conducted at different levels: At the level of the higher education establishment as a whole, at the level of a faculty, a department or a structural unit. An assessment of the quality system of the higher education establishment can be made according to several criteria. Each of the selected basic criteria is divided into a number of sub-criteria in the view of the stages of their development (Table 1).

Thus, the quality of the results of the university work shall be ensured through the quality management of their core business processes. A measure of the quality of such processes is usually the degree of assurance that the provided educational or research service will exactly meet the requirements of the consumer. Leadership, staff and teachers of the higher education establishment should understand current and future needs of their customers fulfill their requirements and endeavour to exceed their expectations (Bobkova et al., 2015a).

**Table 1: The description of effectiveness criteria within the system of interior higher education quality**

Groups of criteria	Criteria
Criteria of the group “Opportunities”	Criterion 1: The leading role of supervisors
	Criterion 2: Policy and strategy
	Criterion 3: Staff management
	Criterion 4: Resources and partners
	Criterion 5: Processes management
Criteria of the group “Results”	Criterion 6: Customers’ satisfaction
	Criterion 7: Personnel’s satisfaction
	Criterion 8: The university impact on society

If the higher education establishment has the quality system built on the principles of the total quality and the process-oriented approach, it will guarantee that the provided educational and research services will exactly match the consumer’s requirements and, according to this, will allow to maintain and strengthen the strategic position of the higher education establishment (Bobkova et al., 2015b).

In modern Russia, when there are active changes in the economic and scientific and technical life, the idea of continuous education and its quality improvement is particularly acute. Some special requirements to the quality of the training are stated as well. The key objective of vocational education is currently considered to be the formation of such a complex structure as the professional competency.

A competence (Latin *competentia*) means a range of issues in which a person is well-versed, has the knowledge and experience (Nelyubina, 2005).

The trends of European education have never been indifferent for Russia. But our education has always chosen “its own way” associated with the specifics of the national traditions and processes. The trend to strengthen the role of competence in education will be no exception either.

One of the key “European” competences is the competence in the sphere of cultural and leisure activities, that comprises the development of free time investigation techniques, in particular. The competence in the field of general culture, spiritual life and activity is much more important. The problem of free time is not the cause but the result of the presence or absence of cultural competence of a person, which is really the key competence and highly relevant to the modern state of the national education.

To separate general and personal components of the content of education, we’ll distinguish the concepts of “a competence” and “a competency” used as synonyms (Nelyubina, 2005).

A competence is a set of interrelated personal qualities (knowledge, abilities, skills, ways of work), set in the relation to a certain circle of objects and processes and required to be efficiently productive to act against them.

A competency is an ownership, a possession of an appropriate competence by a person, including his personal attitude towards it and the subject of activity.

In other words, a competency is always colored by the personal qualities of a certain learner. There is a great amount of such qualities varied from semantic and ideological (for example, why I do need this competence), to reflexive and evaluation (how well I apply it in my life).

The competency implies a minimal experience of using the competence. It is important not to forget this fact while formulating verifiable requirements to the student’s preparation and designing textbooks and teaching process.

There are the following functions of competences and competencies in relation to student's individual qualities. They:

- Reflect and develop personal meanings of a student in the direction of the objects of the studied areas of reality;
- Characterize the activity component of the student's education, the degree of his "isolation" and practical training;
- Define the minimum experience of the subject activity;
- Develop the ability to solve the real problems of everyday life – from household to industrial and social ones;
- Are multidimensional, i.e., they include all major groups of personal qualities of a student which are being developed;
- Represent integral characteristics of the students' training quality;
- Combine to determine and reflect the functional literacy of a student.

Currently there are a number of attempts to define the concept of competence from an educational point of view.

Competence is not only an individual psychological feature, but an overall quality, standardized for many individuals, represented as a general standard. In addition, competence includes a range of real objects, which it is given to, and provides mastering a complex educational procedure with the personal activity nature (Nelyubina, 2005).

In relation to the structure and the content of education competences:

- Present the opportunity to design the objectives, the content of education (educational standards) and educational technologies in systematic approach;
- Are meta subject, i.e., they are found in various subjects and educational areas either integrally or through separate elements;
- Are versatile, because they allow students to solve problems from different spheres of life;
- Are formed by means of educational content.

In relation to methods of operation the competences:

- Allow the use of theoretical knowledge to solve specific tasks;
- Allow creating precise measuring instruments to check the students' success in learning them;
- Are checked in the process of performing a certain complex of actions.

Educational competence is a totality of interconnected semantic orientations, knowledge, abilities, skills and experience of a student, necessary to make personal and socially meaningful productive activities in relation to the objects of reality.

A competence for a student is an image of his future, a landmark for the development.

Educational competences reflect the subject activity component of the general education; they are designed to ensure a comprehensive attainment of its objectives.

After defining the notion of educational competences, it is necessary to figure out their hierarchy. In accordance with the

division of the educational content on general meta-subject (for all subjects), interdisciplinary (for a cycle of subjects or educational areas) and subject (for each subject), we offer a three tier hierarchy of competences:

- Key competences, related to the general (meta-subject) content of education;
- General subject competences, related to a certain circle of subjects and educational areas;
- Subject competences, that are private in relation to the two previous levels of competence, and have a specific description and the possibility of the formation within the subjects.

Thus, the key educational competences are concretized at the level of educational areas and subjects for the each stage of training.

A list of the key educational competences is defined on the basis of the main purposes of general education, the structural representation of social experience and the experience of an individual, as well as the core activities of the learner, enabling him to master social experience, to receive life skills and practical activity skills in society.

1. Value – semantic competence. This is a competence in the sphere of worldview, connected with the values of students and their ability to see and understand the world around us, to navigate, to understand their role and purpose, actions and deeds, to make decisions. This competence provides a mechanism for student's self-determination in situations of educational and other activities. The individual educational trajectory of a student and the program of his life in general are dependent on it.
2. Cultural competence is a range of issues in which students should be knowledgeable, have knowledge and working experience. These are national and universal culture features, spiritual and moral foundations of a human and humanity life, the life of individual nations, the cultural foundations of family, social and public phenomena and traditions, the role of science and religion in human life, their effect on the world; competences in domestic, cultural and leisure activities, for example, knowledge of effective ways of organizing free time.
3. Educational-cognitive competence. It's a set of student's competences in the sphere of independent cognitive activity, including elements of logical, methodological, educational activities, compared with the real knowable objects. This includes the knowledge and skills of goal-setting, planning, analysis, reflection, self-evaluation of educational-cognitive activity. The student possesses creative skills of productive activities: Extraction of knowledge directly from the reality, knowledge of the methods of action in unusual situations, heuristic methods of problem-solving. In the framework of this competence the requirements of the relevant functional literacy are determined: The ability to distinguish facts from fiction, the possession of measuring skills, using probabilistic, statistical and other methods of cognition.
4. Informational competence. The ability of independent search, analysis and selection of information, organization, transformation, preservation and transmission of it is formed using real objects and information technologies. This competence provides the skills of the student's work with the

information contained in educational subjects and educational areas, as well as in the world around.

5. Communicative competence includes knowledge of the necessary languages, ways of interacting with others and remote people and events, skills of a group work, possession of different social roles in the team. The student should be able to introduce himself, write a letter, a questionnaire, a statement, ask a question, lead a discussion, etc. To master this competence in the learning process, one fixes necessary and sufficient amount of real communication objects and ways of work with them for the student of each study level within each studied subject or educational field.
6. Social and labor competence means the possession of knowledge and experience in civil-social activities (playing the role of a citizen, an observer, a voter, a representative), in social and labor issues (the rights of a consumer, a buyer, a customer, a manufacturer), in the field of family relations and responsibilities, in the matters of economics and law, in professional self-determination. This competence includes, for example, the ability to analyze the situation on the labor market, to act in accordance with personal and societal benefits, to hold the ethics of labor and civil relations. The student possesses the minimum skills of social activity and functional literacy required for life in contemporary society.
7. The competence of personal self-improvement aims to master the methods of physical, spiritual and intellectual self-development, emotional self-regulation and self-support. The real object here is the learner himself. He takes the ways of acting according to his own interests and capabilities, which is reflected in his continuous self-knowledge, the development of personal qualities necessary for a modern person, the formation of psychological literacy, culture of thinking and behavior.

The analysis of the foreign and Russian works on the problem of competence and competency allows you to allocate three conditional stages of the generation of competency approach in education.

The first stage (1960-1970) is characterized by an introduction of such category as “a competence” to the scientific apparatus, creating the preconditions for the differentiation of the concepts of a competence/a competency.

The second phase (1970-1990) is characterized by the use of the category of competence in the theory and practice of language teaching, by professionalism in management, leadership, teaching of communication; the concept of “a social competence/competency” is being developed.

The third stage of the competence research as a scientific category in relation to education, which started in 90s of the last century, is characterized by the appearance of works of Markova, where the professional competence becomes the subject of a special comprehensive examination in the general context of labor psychology. Markova defines four blocks in the structure of the professional competence of teachers:

- a. Objectively necessary professional psychological and pedagogical knowledge;

- b. Objectively necessary professional pedagogical skills;
- c. Professional psychological positions, directive of a teacher, required by his profession;
- d. Personal features providing mastering professional knowledge and skills by the teacher (Nelyubina, 2005).

Today in our country the terms “a competence,” “a competency” are increasingly used discussing the new quality of education to indicate its new result. That’s the way this term sounds like in the Russian Concept of modernization of education. However the discussion on the concretization of the meaning of the term “a competence” is going on in the pedagogical community. Which of them are the key or universal? What are their methods of formation and evaluation like? These questions are under the discussion too.

The problem of selecting a key educational competence is a target for updating the content of natural science education. All key competences have the following characteristics:

1. Key competences are multifunction (competences are a key, if the mastery of them enables to solve various problems in everyday, professional, social life; they need to be mastered to achieve different objectives, to solve complex problems in different situations);
2. Key competences are above subject and interdisciplinary, they are applicable in different situations;
3. Key competences require intellectual development: Abstract thinking, self-reflection, determination of one’s own position, self-evaluation, critical thinking, etc.;
4. Key competences are multidimensional, i.e., they involve mental processes and intellectual skills (analytical, critical, communicative, etc.).

We may say that key competences show concentrated and interconnected embodiment of all the components of general subject content of education: The real objects of reality being studied; general cultural knowledge about the reality being studied; general and general study skills, and generalized ways of activity.

Thus, the formation of professional competence of students is based on the system of key educational competences that relate to the thematic general subject content of education, to the mastering of scientific concepts, categories, etc., as well as to the mastering of self-organization, planning, reflection, self-esteem and other similar ways of activity. Educational competences of a student are the result of a person-activity approach to education and are formed only in the process of performing the corresponding set of actions.

The concept of a competence includes complex, capacious content that integrates professional, social-pedagogical, psychological, legal and other characteristics. In summary, the competence of a specialist is a set of abilities, properties and personal qualities necessary for a successful professional activity in a particular area. The criterion of a professional competence is the public significance of the results of the specialist’s work, his influence, socio-occupational status in a certain sphere of knowledge (activity).

Summarizing, we can state that professional competence can be represented as a number of interacting and interpenetrating

formations. The structure of this competence is formed by substantive, activity and personal components.

Substantive (base) component requires a specialist's certain theoretical knowledge of the basics of fundamental and applied Sciences that provides the awareness during the specialist's determination of his professional activity content.

Activity (practical) component includes professional knowledge and skills, tested in action, mastered by the person as the most effective (Nelyubina, 2005).

Personal component includes professional and personal qualities that define the position and orientation of a specialist as a personality, an individual and a subject of activity.

Professional competence is a dynamic phenomenon, since it depends on many factors, including the development of associated with the professional activity branches of science. By engaging in an independent practical activity, yesterday student passes a series of stages, providing the transition from the acquired at the higher education establishment theoretical readiness to perform professional activities to a highly productive, creatively intelligent, individual style of activity, when all the professional competences of a specialist are connected and interacted.

Tsyganov introduced a category of invariant "Independent Students' Work – competence" into the conceptual research and teaching unit, considering it as a complex phenomenon consisting of informational, technical, human and organizational components, and interpreted it as an ability/willingness to update the system of mental and personal qualities to solve the problem "learn how to learn" (Nelyubina, 2005).

This definition makes clear the fact that he states as a professionally significant competence not only the conceptual one, but also such competences as informational, technical, cognitive and organizational. Without their formation and development it becomes problematic to carry out the basic professional functions of the teacher (informative, analytical, pedagogical and communicative).

Information competence is an ability/willingness to mobilize the knowledge, skills, mental qualities needed for the search, the "collapse" of information, the fixation and assimilation of its large volumes. This competence allows not only to carry out library or Internet search, but to perceive the semantic content of the text very fast (3-5 times faster than normal speed) using the methods of dynamic reading. It allows to highlight the semantic units of the text, combine, "collapse" them in larger information units (and very large ones called descriptors) and to have time not only to listen to the lecturer and put down the lecture as a dictation, but to fix it on a paper using the methods of empathetic listening and speed note-taking. This system of operating sense making actions, based on the semantic memory, concentration and switching attention, which are the basis of professional thinking, must be recognized, and then formed on a subconscious level (as habits).

The formation of primary professional skills of a freshman is also stimulated by the development of technical competence, which is the ability to process some printed information by technical means. This type of competence allows you to speed up the production of texts (test works, term papers, and reports) significantly, saving time on taking notes.

The formation and development of a professional teacher as an active subject of educational process are now very significant, particularly in the development of professional standards of pedagogic activity. In this regard, new approaches to define goals, objectives and principles of education are being developed, the necessity to revise the content of education is being explained, and new forms, means and methods of teaching from the standpoint of the competence approach are being developed.

All the components of ICT-competence of future teachers are interrelated and interdependent. On the theoretical analysis basis, taking into the account the combination of different levels of mastering these competences, Nelyubina identified four levels of formation of information and computer competences.

The initial level involves mastering the information and computer competence at the level of a senior pupil of a secondary school, which is reflected in the standard of general secondary education in informatics and ICT. At this level a future teacher has a general idea in Informatics and ways of application of information technology; he shows interest in working with a computer, but does not seek to give valuable assessment to information. It assumes the possession of basic techniques for working with computer hardware and software. Group interaction is contextual in nature, but several solitary instances of using computer skills as means of communication may occur. Observation showed the absence of a holistic view of the possibilities of using the computer. Reflection is weak, i.e. there is lack of adequate assessment of oneself and one's possibilities (Nelyubina, 2005).

Algorithmic (reproductive) level is characterized by the actions of students according to the algorithm, created by a teacher. Future teachers learn programming languages and create software products either similar or according to the algorithm of a teacher. They show interest in different types of reporting, give valuable assessment of information based on the proposed example. They own the method of analogy and master similar software products on its basis. During the lesson business communication and communication through information technology can be observed. There is an awareness of the significance of information technology in reaching personal goals; skills of self-evaluation and evaluation of others according to a given algorithm are developed.

Heuristic level is characterized by the presence of an ability to solve various problems using adequately chosen software. An interest in application of information technologies in professional activity on the basis of the created values is observed. There is an independent learning of various software products at this level. Future teachers enter into the exchange of professionally important information by means of information technology. There



is a conscious use of information technologies, as well as the self-evaluation and the evaluation of other people's development in professional sphere.

Creative level is characterized by the ability to create software on the basis of the knowledge gained in pedagogy, methodology, and Informatics and use it in professional work. Information technologies are used as tools of professional self-improvement. There is a purposeful selection of information required to create professionally meaningful products. It is possible to note the presence of the ability to conduct a professional dialogue by means of information technology, to propose problems and to look for their solutions together. There is a reassessment of the use of information technologies in personal and professional development. One's own behavior is updated through the development of empathy.

In essence the given levels of ICT-competence of future teachers represent a hierarchy of levels: Each subsequent level includes the features of the previous, and has special features that distinguish it from the previous. While the future teachers move by this "hierarchical" ladder, a new way of thinking is formed. The result of this process is that the ICT- competence of the future teachers is formed as well.

#### 4. CONCLUSIONS

In conclusion, it is necessary to make a number of important observations concerning the general methodology of assessment the availability and effectiveness of the in-university quality system based on the proposed model and its potential application in self-assessments and certification expertise of the higher education establishment.

The existence of quality systems in higher education can be fixed by finding the integrated assessment on all criteria. In this case the valid values for the specified criteria should be set by the experts based on a careful analysis of the average state of quality systems at different universities. To illustrate it a "spider chart" methodology can be used. The area of "effectiveness" of the quality management system of the higher education establishment can be defined similarly.

It is necessary to develop a regulated procedure of organization of self-assessment (evaluation) of the quality system of the higher education establishment on the basis of the adopted model.

The developed model and procedure of evaluation of availability and effectiveness of quality systems should be advisory both for higher education establishments and for the experts involved in the certification procedure of the higher education establishment; and to have some tolerance to other possible models of quality systems. In accordance to the traditions and general principles of quality, the development and the implementation of the system in the organizations should be voluntary; an identical model of a quality system should not be imposed but encouraged.

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## **Instrumental and Technological Directions to Ensure Economic Security of Enterprise**

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### **ABSTRACT**

The market relations demands from heads of the enterprises not only implementation of process of production of goods (services), but also development of the program of management of economic security, as perspective direction of maintenance of technical and economic efficiency of a production activity of the enterprise. In the context of the analysis of economic security as efficiency parameter, the personnel safety coordinated to organizational culture of the enterprise gain special importance. Here comes to the forefront functions of the personnel responsible for carrying out this work at the enterprise, which is carrying out functions of observance of rules of economic security in interrelation with organizational culture of the enterprise. Weakening practically of any stage of financial and economic activity is reflected in complexity of economic security of the enterprise therefore management of the enterprise are in close interrelation with questions of economic security.

**Keywords:** Economic Security, Organizational Culture, Personalization

**JEL Classifications:** D2, L84

### **1. INTRODUCTION**

For providing economic security and protection of intellectual property (trade secret) at the enterprises, it is offered to enter the strict operating procedure with information and access to it including a complex of the administrative, legal, organizational, technical, social, psychological, and other measures, which are based on precepts of law and on organizational and administrative provisions of the director. Effective providing economic security is possible at obligatory performance of a number of organizational and technological actions:

1. Adoption of complex decisions on production, commercial, financial and regime questions when providing economic security.
2. Implementation of measures of economic security (and other safety) all interested divisions of the enterprise.
3. Implementation of an assessment of information and the objects, which are subject to classification (protection). Development of regime measures prior to carrying out regime works.
4. Personalization of responsibility (including material) heads of all levels and divisions, performers participating in the closed works for ensuring safety of secret and maintenance up to standard the mode of protection of the carried-out works.
5. Formation and inclusion of the updated duties of workers, experts and administration on observance of concrete requirements of the mode in the collective agreement, the contract, the labor agreement, rules of the labor schedule.
6. The organization of the unified office-work, an order of storage, transportation of carriers of a trade secret. Introduction of the corresponding marking of economic documents and other carriers of the closed organizational and economic data.

7. Formation of the list of the persons authorized by the director to classify information and objects containing the data which are a trade secret.
8. Optimum restriction of number of the persons allowed to a trade secret.
9. Existence of a uniform order of access and registration of admissions.
10. Implementation of requirements for ensuring preservation of a trade secret at design and placement of special rooms; in the course of research and development, tests and production of products, sale, advertising, signing of contracts, when carrying out especially important meetings, during use of technical means of processing, storage and information transfer, etc.
11. The organization of interaction with the government bodies of the power having powers on control of certain kinds of activity of the enterprises.
12. Formation of collective of protection, through put and in object the modes.
13. Systematization and planning of development and implementation of measures for protection of a trade secret, systematic control of efficiency of the taken measures.
14. Formation of system of training of performers in rules of ensuring safety of a trade secret.

## 2. THE MAIN PART

At the organization of protection of a trade secret in the course of providing economic security, property and financial values the director operates, first, with economic feasibility. We believe that thus it is necessary to consider two moments:

1. Costs of providing economic security have to be, as a rule, smaller in comparison with possible economic damage
2. The planned measures of economic security promote, as a rule, increase of economic efficiency of business activity.

By authors, it is designated that the central place in the organization of providing economic security of the enterprise is taken by a choice of structure of the service allowing resolving effectively these issues. At the enterprises with an insignificant volume of the data, which are a trade secret and also commodity and money, the director, or in combination the employee appointed by his order having the corresponding experience can exercise control of providing the mode of safety. The security service of the enterprise, as a rule, submits directly to the director and is created by his order, which has to be the structural unit of the enterprise which is directly participating in production and commercial activity. Activity of security service is carried out in interaction with structural divisions of the enterprise.

The structure and states of security service depending on amount of works and features of production and commercial activity are defined by the director and, have to be completed with technical officers - experts of the main profile of work of the enterprise, and the experts having practical experience of information security or work with various groups of people. Only the director makes appointment to the post of the head of the security service of the enterprise, and its release.

The above-named and other requirements bring in the Provision on security service that is developed according to instructions of the director. The optimum structure of security service can be certain in the analysis of all functions of providing economic security and allocation from all complexes of who most adequately correspond to production and commercial activity of the enterprise (Huang and Yu, 2011; Gluschenko, 2009).

For performance of this stage of works, we will give the most complete set of the functions which are carried out with involvement of specialists of the enterprise by services of economic security.

Functions on ensuring protection of property of the enterprise (taking into account its features and vulnerability).

1. Definition of system of protection of the enterprise, dislocation of posts, means of TSO, fire-prevention automatic equipment, communication.
2. Allocation of rooms (sites) where inventory items (money) and implementation through heads of the relevant divisions of measures for increase of reliability of their physical protection are stored.
3. Definition of sites, vulnerable in the fire and explosion relation, which exit, of their system can cause serious damage to the enterprise and development of measures for neutralization of threats.
4. Definition of processing equipment, which exit, of their system can lead to big economic losses, and development of measures for neutralization of threats.
5. Definition of weak spots in technology of a production cycle unauthorized change in which can lead to loss of quality of products and cause material damage, and acceptance of the appropriate measures.
6. Development, commissioning and maintenance in the protected territory in the access and object control (an order, time of the admission of workers, visitors on the enterprise territory, including in holidays; order of import (import) or carrying out (bringing) of material values, finished goods, materials, etc.; location and number of control passes and drives; rooms and divisions, access where it is limited; system of admissions and documentation).
7. Development of the documents regulating the administrative legal basis of activities for protection of property of the enterprise (regulations on protection; the instruction about the order of ensuring safety of material and documentary values of the enterprise; the instruction about the access and inside control).
8. Finishing requirements (the corresponding amendments) concerning protection, the throughput and inside modes to the staff of the enterprise.
9. Control of execution and analysis of the reliability status of storage of material values, protection, throughput and inside modes.
10. Carrying out office investigations on the facts of violation of the operating procedure with property.
11. The organization of interaction with federal security service and law-enforcement bodies on ensuring economic safety of the enterprise (taking into account competence of these bodies).

Functions on safety of the personnel of the enterprise (Kashcheeva, 2013):

1. Development of measures of ensuring physical protection of the personnel; organization of protection (bodyguard, protection of vehicles), throughput and inside modes; establishments of the corresponding order of acceptance of visitors, works of administrative assistants, etc.
2. Providing the personnel with means of technical protection against unauthorized penetration into rooms (offices), in cars, on parking, to the apartment for fixing of attempts of criminal acts (installation of tape recorders, movie cameras), for the hidden communication of the head with protection of the enterprise.
3. Determination of the list of the information which is not subject to disclosure (not entering the trade secret) to strangers.
4. Collecting by security service of information on signs, characteristic for specific types of threats to the personnel (employees).
5. Ensuring control of carrying out the repair, scheduled maintenance which is carried out by third parties at the enterprise (if necessary special examinations after completion of works of these rooms, cars, devices, devices are conducted).
6. Preparation of the personnel for actions in extreme situations (development of skills of the assessment of information, the relevant standards of behavior and decision making).
7. Personnel training and members of their families to identification of the signs indicating preparation of the actions directed against them.
8. Legal personnel training: Legal opportunities of protection against the criminal (regulation of necessary defense, emergency).
9. Establishment and maintenance of practical forms of interaction of security service with law enforcement agencies on safety of the personnel (at data acquisition about the illegal actions preparing, taking place concerning the personnel raising the questions of ensuring economic safety of the enterprise, etc.).

Information support of activity of the enterprise:

1. Legally competent and economically safe information service of activity of the enterprise in the market of labor power, interaction with the public and the seal.
2. The ensuring reliability of cooperative communications excluding both unilateral dependence, and business contacts with unfair business partners and intermediaries.
3. Participation in preparation and holding the special information events increasing reputation of firm in the opinion of partners, the public, authorities (including concerning Saturday in forming at the belief environment in force and efficiency of its activities for protection).
4. Together with other divisions of the enterprise obtaining in the analytical way of information on competitors concerning possible preparation and carrying out by them the actions classified as unfair competition, and development of measures for their neutralization.
5. Planning of organizational measures of collecting, information assessment in interests of ensuring stable and effective activity of the enterprise (the list of questions on which collection

of information, who how and when brings together her is necessary).

6. Development of measures for accumulation, storage, use, the accelerated bringing to contractors of valuable information, including the classified documents and data.
7. Information support of activities of security service for data acquisition about the preparing infringement of interests of the enterprise.
8. Obtaining and synthesis of open publications concerning ensuring economic safety of the enterprises and development on their basis of offers.

Having chosen from the provided list of function which accomplishment would provide reliable protection of the enterprise (firm), the head defines structure and quantitative structure of security service. At optimum structure of security service her workers shall block all functions assigned to this division. The director can grant to security service the following rights:

- Make offers on prohibition of works with the documents leaving the trade secret and also on change of the order of storage or transportation of goods of other values at identification of violations which could entail causing economic damage.
- Control the state and reliability of protection of the closed works and property, money with involvement of specialists of the enterprise.
- Leave with the petition for discharge of specific contractors of the enterprise from conducting the closed works, negotiations with other firms, transportation, storage, protection of property property.
- Approve the actions developed by divisions of the enterprise for the purpose of ensuring economic safety.
- Give within the competence to heads of divisions and contractors obligatory recommendations for execution; provide concerning ensuring economic safety of the enterprise training and instructing of employees.
- By order of the director of the enterprise to take part or conduct independently investigation of the facts of disclosure of the trade secret, loss of documents and products, plunders of goods, other values, and also gross violations of the set mode of economic safety of the enterprise.

Decisions and organizational and administrative documents concerning the relation of security service with other divisions of the enterprise if necessary are processed by orders of the director. All staff of the enterprise shall know about availability of such division and its powers. It is explained first of all by that even the employee of the enterprise who is not working with the trade secret can become the creator of the most valuable information demanding immediate protection.

The above-named and other requirements bring in Regulations on security service which are developed according to instructions of the director. At accomplishment of the tasks assigned to security service her employees use different forms and methods in the work: The edition of organizational and administrative and methodical documentation, carrying out in divisions of the enterprise of complex and target checks, hearing of messages of heads of the



appropriate level on the condition of the mode in division, different forms and methods of scheduled maintenance, etc.

It is necessary for the head of security regularly, in fixed terms to report in the work to the director.

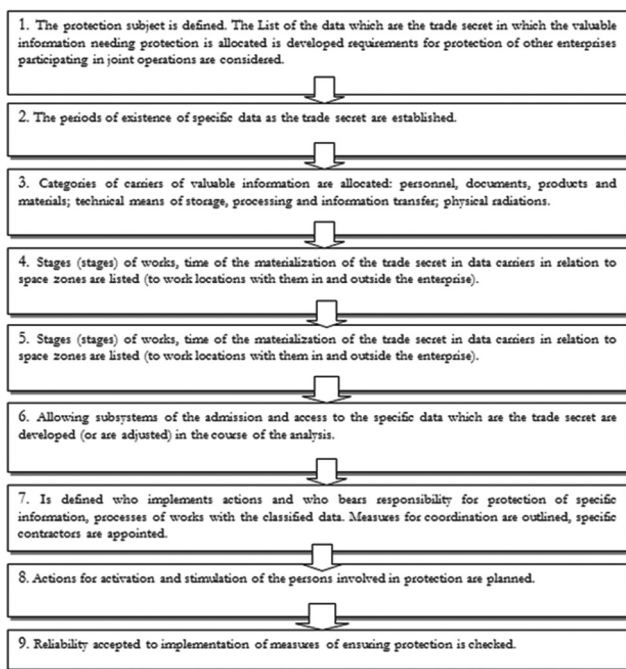
Starting development of the system of measures for ensuring protection of economic safety of the enterprise, his head (or the head of the security service) shall receive answers to the following questions:

- What it is specifically necessary to protect (to protect), from whom and when?
- Who will organize and provides protection (protection)?
- How to estimate efficiency and sufficiency of protection (protection)?

For the illustration we will consider stages of the organization of system of protection of the trade secret which are provided in Figure 1.

As appears from Figure 1, the system of protection of the trade secret consists of 9 stages of work, each stage is followed by practical practices (Sciascia et al., 2015; Finaev Valery et al., 2015). For example, the 4<sup>th</sup> stage at which stages (stages) of works are listed, time of the materialization of the trade secret in data carriers in relation to space zones (to work locations with them in and outside the enterprise) may contain reports of Research and Development on workplaces of contractors; the magazine of results of tests of the product at the test bench; the agreement signed abroad; performances of participants of reporting meetings in specific offices; reproduction of the classified documents on the multiplying site; the samples of products which are shown at exhibitions, etc.

**Figure 1:** Stages of the organization of protection of the trade secret when ensuring economic safety of the enterprise



The analysis of the condition of efficiency of economic safety includes:

- Studying and assessment of the actual state.
- Identification of shortcomings and violations of the mode which can lead to loss of physical carriers of secret (valuable property) or disclosure of the trade secret.
- Establishment of the reasons and conditions of the revealed shortcomings and violations.
- Development of the provisions directed on remedial action and prevention of violations.

Can be objects of the analysis and control depending on objectives:

- Observance of regulations, rules of storage and protection in rooms, the specialist storages, on workplaces.
- Accounting and providing the personal liability for accomplishment of this function.
- Observance of the order of storage, accounting and destruction.
- Observance of requirements of the order of the address.
- Measures for prevention of unauthorized carrying out of KT carriers for the enterprise territory.
- Observance of the mode and protection when transporting, mailing, delivery.
- The organization of access for the invited, sent, invited persons to information of the enterprise.

Organization of carrying out meetings, exhibitions, negotiations, etc.;

- Level of knowledge of requirements of the mode of the persons allowed to the closed works and documents.
- Degree of security of security service with reliable storages, the locking devices, means of sealing up.
- Level of security of employees with the corresponding workplaces for work with carriers of secrets.
- Condition of the access and internal control in buildings, rooms, in general at the enterprise.
- The mechanism of distribution of carriers of the trade secret on levels of execution and management.
- Justification of access to different types of carriers of specific employee groups.
- Order of the handling of carriers on workplaces.
- Order of use of means of obtaining, processing, storage, display, information transfer.
- Order of the exchange of data in the enterprise and with external partners.
- Timeliness and correctness of classification and disclosure of data.
- Organization and holding exhibitions, conferences, symposiums, etc.
- Quality of development of organizational and methodical documents, accomplishment of work plans and special events for information security.
- Level and completeness of fulfillment of requirements of the management of the enterprise.
- Condition of scheduled maintenance with employees.
- Level of organizational and methodical ensuring interaction between divisions.
- Time of search and bringing information to contractors.

The analysis includes modeling of different channels of information leakage, possible acceptances and methods of unauthorized receipt of the classified information.

Overseas enterprises carry to number of the most probable channels of leakage of the classified information: Activity, joint with other enterprises, participation in negotiations; dummy requests from outside about opportunity to work at the enterprise at different positions; excursions and visits of the enterprise; messages of sales representatives of the enterprise on product characteristics; excessive advertising; deliveries of suppliers (Kobersy et al., 2015); consultations of specialists from outside which as a result of it get access to installations and documents of the enterprise; publications in seals and performances; meetings, conferences, symposiums, etc.; talk in non-working rooms; the offended staff of the enterprise.

In dissertation research it is allocated that the security service in the course of the organization of protection of the trade secret needs to consider the following possible methods and methods of collection of information:

- Employee survey of the studied firm at personal meeting (Williams, 2013; Kitov, 2009).
- Imposing of discussions on the interesting problems.
- Mailing in addresses of the enterprises and certain employees of questionnaires and questionnaires.
- Conducting private correspondence of scientific centers and scientists with specialists.

For collecting of data in the row the case representatives of competitors can use negotiations on determination of perspectives of cooperation, creation of joint ventures. Availability of such form of cooperation as accomplishment of the joint programs providing direct participation of representatives of other organizations in work with documents, visit of workplaces expands opportunities for copying from documents, collecting of different samples of materials, tests, etc. Thus taking into account practice of the developed countries economic rivals can resort, including to illegal actions, industrial espionage.

Use of the following methods of getting of information is most probable: Visual supervision; interception; technical supervision; direct poll, ferreting out; acquaintance with materials, documents, products, etc.; collecting of open documents and other sources of information; plunder of documents and other sources of information; studying of the set of the sources of information containing in parts necessary data.

Analytical researches, modeling of probable threats allow to plan if necessary additional measures of ensuring economic safety. Thus it is necessary to estimate probability of their accomplishment, availability of methodical material, material security, readiness of security service and the personnel them to execute. When planning the shortcomings of ensuring safety of the trade secret taking place at the enterprise is considered.

The organization of system of protection fits into the social and psychological situation of the enterprise. With respect thereto

accounting of the basic taking place in it and expected changes is extremely important.

The concept “economic safety” fixes that safety management shall represent one organizational administrative system, and the concept “safety of activity” - that really there is the set of the autonomous systems imposed at each other making together the whole.

Therefore in real situations requirements of regulating documents cannot be fulfilled. From here also there is the need of management when reliability whole shall be provided at unreliable elements, i.e., such technicians of work who give the chance to compensate inevitably arising deviations are applied.

Value of communicative communications and strategy in, that from those processes which in the scheme of gaps and trends seven, to find in each case that in which language the solution of the task and by that - the influence compensating the deviation is possible.

Theoretical basis of socio-humanistic technology of management of economic safety is the management concept development developed in technology of management of risks at all levels of sociotechnical system, its inclusion in organization culture of the enterprise, integration into more general institutional systems of regulation.

Management of risks shall enter the employee development program, the companies, the enterprises, is mastered by the personnel as modern managerial competence by means of the trainings directed on maintenance of readiness of the personnel for actions in the conditions of risks and completion of the deficit of the managerial position which arose at the previous stage of development of the Russian economy.

The developed technology is complex since includes:

1. Institutional and legal conditions
2. Motivational contour
3. The communicative channels and strategy considering formal and informal interactions
4. Safety economy
5. Personnel technologies.

The institutional and legal analysis includes:

- The system theoretical and normative and legal analysis of the number of the industries of the current legislation of Russia (labor, administrative, criminal law) in the context of legal support of economic safety.
- Research of interrelation of organizational and managerial, technical, legal means of increase of level of economic safety.
- Complex research of the reasons and conditions of violations of the mode of economic safety at the enterprises, including research of social and legal bases of the interconnected “subsystems” - technology safety, economic safety, safety of life and health of the personnel, ecological, fire-prevention, criminological, psychological.
- Development of the system of the measures ensuring economic safety of production, the labor activity at the enterprises.

Revealing institutional and legal problems of development of tools in this context, it should be noted the following:

- Systematization of the legal acts of the federal, regional and local level devoted to economic safety is not complete.
- Legal, special and criminological and anti-delinquent measures are insufficiently used.
- Legal “resources” of identification of motives of the “breaking” behavior are not considered, both from workers, and from management of the enterprise.
- The legal institutions of the regional level acting as the component of system of the right and the legislation of the Russian Federation shall bring the important contribution to ensuring economic safety and labor safety.

The analysis of foreign literature on this subject shows that the most priority at the present stage is the concept of the integrated approach which is put forward by the Australian researchers (Australian Experience of the Integrated Approach to the Problem Resolution of Safety, 2007), and based on behavioristic approach (but not Systematic-activity, as in our case).

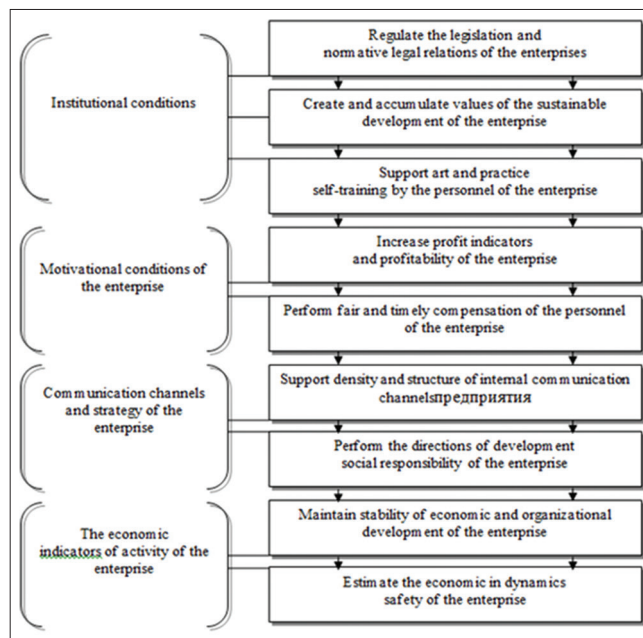
In our opinion, in the course of development of the system of economic safety of the enterprise it is reasonable to use also the method of interdisciplinary synthesis developed by Schedrovitsky (Mayer et al., 2015; Management of Risk in Mining Industry: Foreign Experience, 2008; Schedrovitsky, 1995), which is used for systematization and the soorganization of knowledge for the purpose of creation of the multilateral theoretical picture of the studied object. In connection therewith - “managements of economic safety of activity at the enterprise” can be allocated with method in system of the scientific subject the following units (Safullin and Salahieva, 2015):

1. The facts received during the analysis of the situation
2. Thesaurus (keywords)
3. Techniques of sociological researches
4. Onto-logic schemes of activity
5. Models of the motivational contour and communication channels
6. The knowledge gained during sociological researches and the analysis of literature
7. Problems and problems of scientific research.

On the basis of structural model actually theoretical knowledge synthesizing the set of initial separate knowledge of object shall be gained. And further theoretical knowledge shall be used in the relation to the set of the objects of practice differing among themselves (Lee, 2014). The theoretical knowledge postponed for objects of practical operating will be transformed to new structures - practical knowledge, and then - to technologies. Technologies of management of economic safety are built on the basis of the flowchart of process acting as the program regulating activity of the researcher (Figure 2).

Let’s consider the above on the example of the enterprise of JSC Starched Plant Gulkevichsky of Krasnodar Krai, we investigate methods of management of economic safety of the enterprise (Kobersy et al., 2015), their communication with organization culture which rely on style and the principles of the management,

**Figure 2:** Flowchart of process of management of economic safety of the enterprise



and also motivation of employees, in unity with strategy of cost reduction and building of the income. Characterizing management style and methods, it is possible to allocate:

- System goal setting and tasks
- control and monitoring of their accomplishment
- Effective group and personal communications
- Strategic and operational planning (Besser and Miller, 2011)
- Regulation and optimization of business processes
- Transparent system of the management reporting
- End-to-end budgeting of all processes
- Marginal approach in efficiency evaluation of the range, production sites, projects, etc.

One of the main objectives of the head at the studied enterprise is personnel development, identification of creative and professional potential. One of the most productive methods of personnel development, in our opinion, is:

1. Internal coaching
2. Authority delegation through development of new skills
3. Solution of new project tasks
4. Motivation.

This management system is under construction on reliance principles, mutual respect, responsibility and commitment and allows to reach real loyalty and commitment of team and respectively growth of its efficiency and productivity. The daily management reporting on control points on all business processes is implemented, beginning from purchase of raw materials, production, logistics, investments and finishing with sale, cash flow. Through trends and their gaps in the permanent mode deviations from the budget, the business plan, and strategy are traced. In total with end-to-end budgeting and managerial accounting operational or strategic management decisions on cost reduction, growth of the income are made, action plans are adjusted.



Depending on categories of the personnel motivation models are developed. Among methods: The price-work and administrative award, the project bonus, the KPI bonus, systems of awarding for rationalization proposals, etc. The mandatory requirement - transparency of calculations for the personnel and honesty in relation to the personnel in calculations and payments. In particular, for production changes charts on accomplishment of the plan of production are weekly hung out, showing the expected bonus level on the trend depending on the current situation and the forecast until the end of the month. On these charts the worker also sees how change (the element of the forgotten socialist competition) since already many workers well understand coefficients, trends, schedules of performance, factors influencing their income fulfilled him - the trust so gradually forms.

### 3. CONCLUSION

Thus, the socio-humanistic approach which is using results of synthesis of social and humanitarian knowledge - the scheme of gaps and trends, ontologically proving and explaining the existing various knowledge of object - management of economic safety - shall open the way to identification of the valid structure of object. The structural model necessary for management practice by development cannot be constructed on the basis of any one of the existing description levels as economic safety represents difficult multidimensional object which is not limited, for example, to processes of organizational development of the industry, the companies or the enterprises.

Summing up the results, we will note that the instrument-technology directions of ensuring economic safety of the enterprise, including system of the organization of protection of the trade secret, include the complex of the measures which are in advance developed for the certain term covering set of all types of activity directed on improvement of ensuring safety of information taking into account changes of external and internal conditions and ordering to particular persons or divisions of the enterprise, the certain operations procedure.

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# Theory and Methodology for Financial Infrastructure of Foreign Direct Investment in Developing Countries: The BRICS Case

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## ABSTRACT

Global investment imbalance is suggested to be one of three main global economic problems. The purpose of this paper is to analyze possible solutions of global investment imbalance with methods of behavioral economy. The existing models of financial valuation tools that proved to be effective in the developed economies cannot be used effectively for the developing ones. The emphasis of the study is on BRICS countries as a special agent of emerging economies' interests. By means of an analytical model and panel data, the paper is to modify financial assessment tools with a regard for developing countries' specific features. The main contribution of this paper is to deepen the concept of pricing deformation, which is characterized in that the behavioral abnormalities are considered as the basis of deformations. The results are to reveal how to employ risk return trade-off concept on investing in rapidly developing countries.

**Keywords:** BRICS, Foreign Direct Investment, Financial Assessment Tools

**JEL Classifications:** N2, O16

## 1. INTRODUCTION

Foreign direct investment (FDI) has a vast amount of definitions in the existing literature. For instance, the international monetary fund gives a following insight into this term. FDI is a long-term relationship based on the investment reflecting a lasting interest of investor from one country in an entity resident in an economy other than that of the investor. Lipsey (2001) defines FDI as a intermarket kind of investment that is willing to companies resident in one country to participate in business activities on the territory of the other residences (Lipsey, 2001). Griffin and Pustay (2007) argues that FDI refers to the ownership or control of 10% or more of an enterprise's voting securities or the equivalent interest in an unincorporated business (Griffin and Pustay, 2007). Farrell (2008) regards FDI as a package of capital, technology, management, and entrepreneurship, which allows a firm to operate and provide goods and services in a foreign market (Farrell, 2008).

The determinants of FDI need to be put under scrutiny, if FDI is to be explored as a system. Some scholars examine political variables

(Root and Ahmed, 1979; Schneider and Frey, 1985; Stevens, 1969) such as corruption, political risk and stability (Gastanaga et al., 1998; Moosa, 2002; Jensen, 2003). Others see as a dominant index of inward FDI distinctive economic features. Hence, Wei et al. (1999) came to the conclusion that countries "with a high degree of involvement in international commerce, cheap wage level, higher gross domestic product (GDP) growth rates, quicker improvement in infrastructure, more rapid advances in agglomeration" are the contenders for receiving FDI (Wei et al., 1999). Another determinant which is invariably related to inward FDI inflows is strategic, behavioral, and economic benefits, lower costs, huge reserves of natural resources, and capacity of market expansion (Erel et al., 2012). Enumerating FDI's determinants Dunning's eclectic paradigm cannot be neglected. The author performs four main motivations for FDI: Resource seeking; market seeking; efficiency seeking and strategic asset seeking (Dunning, 1998).

The emergence of FDI has certain backgrounds. The most important one that should be mentioned here is a call for sustaining competitive advantage in production techniques. It is almost

impossible to make every detail permanently better than any other body. In some cases it appeared to be more beneficial to invest to other country, produce goods in those local markets and afterwards import well-executed products to the native country. A background can be described in the following simple formula: To produce where expenses are lower and to sell where price is higher.

The economic system throughout the history could be considered stable to some extent. The problem is that the contemporary models of financial assessment tools were formed under the influence of developed economies and cannot be employed for new emerging markets, whereas the mechanisms of market are significantly divergent from the existing models. As a consequence of large differences there is a widespread stance that emerging markets resemble a lottery. Due to high risk rate losses can exceed probable benefits. Nevertheless, in some cases the investment can turned out to be successful and committed facilities will be multiplied many times. The main objective of this article to identify the peculiarities of such cases and through the analytical model to recommend investment companies how to invest to emerging markets with lower risks.

## 2. LITERATURE REVIEW

The theory of international trade has changed dramatically over centuries. One of the first attempts to prove that for mutual development and prosperity it is better to draw attention to other issues than to mere accumulating gold and silver belongs to Ricardo (1817). By means of mathematics, he argued that combination of industry specialization and free international trade would lead to positive results. His fully-fledged theory was called the theory of comparative advantage.

Heckscher-Ohlin (1919; 1933) findings indicate that a country exports resources which it had in abundance. For instance, the United States are prosperous in capital, which means their export trade will be dominated by capital goods. Hence, the country is eager to invest in those industries abroad which are underdeveloped in the native country (Heckscher, 2007; Ohlin, 1933). Nevertheless, the study conducted by Leontief (1954) challenges the afore-mentioned theory arguing that the US in contradiction with Heckscher-Ohlin exports labor-intensive commodities and imports capital-intensive commodities (Leontief, 1954). The approaches to the description of the business units functioning discussed by Smirnov (2012), Smirnov (2015).

Nowadays, scholars tend to explore developing countries as an essential engine for the future growth and development. Despite the fact that the prior conditions in the developed countries are better, return on capital in emerging markets are considerably higher. Nevertheless, the forecast foreseeing that developing countries will overtake developed ones finds little justification.

An array of scientists examines FDI inflows into emerging economies from different perspectives. Zhang (2001) studies the connection between FDI and economic growth in East Asia and Latin America (Zhang, 2001). Makki and Somwaru (2004) prove a significant positive interaction between FDI and trade in economic

growth in 66 developing countries (Makki and Somwaru, 2004). Liu (2008) explores how spillovers generated by FDI can affect domestic firms in the host country. Overall, Liu concludes that FDI provides domestic firms with positive and significant external benefits (Liu, 2008).

BRICS refers to five rapidly developing countries (Brazil, Russia, India, China, and South Africa) which have been distinguished by O'Neil (2001). The author argues that based on GDP forecast for the next decade, these economies (without South Africa yet) will surpass the G7 individual GDP growth (O'Neill, 2001). Wilson and Purushothaman (2003) unambiguously support this finding confirming that by the year 2050 China is to be new global economic leader, China and India are to become dominant producers of manufactured products (Jiagui and Xiaojing, 2010), Brazil and Russia are to become global leaders in raw products' supply (Wilson and Purushothaman, 2003). Analytical materials of Goldman Sachs have transformed into new viable actor in global politics and economies. Furthermore, the role of these developing countries in this study cannot be doubted as almost half of FDI in emerging economies have led to this group (Ivan and Muresan, 2010). Due to South Africa's joining the group, the potential impact of five countries has expanded substantially. All afore-mentioned gives grounds to examine the particular case of BRICS in this paper.

## 3. RESEARCH METHODOLOGY

Kahneman and Tversky (1984) revealed the significant impact of behavioral anomalies on stakeholders' investment. Moreover, the author underlined the relevance of taking these anomalies into consideration for examining distinctive features of developing economies (Kahneman and Tversky, 1984).

The current concern is to distinguish among two different concepts. Modern behavioral economics studies two categories from the same angle: The value of \$1 of potential income which reflects a risk of not receiving it and the value of \$1 of potential losses. Nevertheless, this paper proposes to distinguish these two indicators as investors' attitude to losing \$1 is divergent from attitude to gaining it.

According to efficient-market hypothesis developed by Fama and French (1992) a market can be considered efficient regarding certain information, if that information immediately reflects entirely in asset price (Fama and French, 1992). The fundamental condition of carrying out this hypothesis is an ability of agents to make rational decisions from risk-return perspective. However, there is inverse proportionality between the size of the market and the possible distortion of aforementioned ability. Such a distortion can undermine the efficiency of investment distribution in developing economies that is crucial for development of markets. Akerlof (1970), the Nobel Prize winner, defines trust distortion as one of basic reasons for market distortion. Trust distortion is generated by asymmetric information which leads to disadvantageous choices of investment distribution and risk of contract's implicit breaching (Akerlof, 1970). Another factor that provokes the emergence of distortion is a possibility to make wrong

decisions consciously foreseeing governmental support in the future and unconsciously underestimating risks as a consequence of trusting in ephemeral state guarantee. The list of scholars who studied the problem of distortion is not limited to above-mentioned authors only. Coase (1992) is a creator of new institutional theory (Coase, 1992), Lucas (1972) offered his rational expectations theory (Lucas, 1972), Markowitz (1959) developed a modern portfolio theory (Markowitz, 1959). Sharpe (1964) as an originator of capital asset pricing model (Sharpe, 1964) and Tirole are those who have contributed much into exploring the essence of the problem. This paper is to perform an analytical model which is an empirical confirmation of theories mentioned above. Nevertheless, it is divergent from all existing models in two perspectives. Firstly, inner capacity of market's self-regulation oriented at overcoming trust distortion. Secondly, it is the first time when the value of \$1 of potential income in the future and the value of \$1 of possible losses in the future appear as separate coefficients.

#### 4. MODEL AND ANALYSIS RESULTS

A strategy of the agent is dependent on his expectations and the level of trust in these expectations. Rational expectations theory examines only expectations focused on the price. Behavioral aspects refer to utility expectation estimation.

Considering the current value of agent's \$1, we can indicate that under different conditions it can have different utility (Nagapetyan and Rubinstein, 2015). Under scrutiny even more complex structure can be revealed. For example we can describe the utility of \$1 of potential income in the future (\$1[d]), expressing the value of potential income to the investor. Also we see the utility of \$1 of possible losses in the future (\$1[R]), expressing the value of possible risks. The value of \$1(d) depends on expectations, on how much the agent is confident that he will gain that potential income (Rubinstein et al., 2015). Hence, the more the agent is confident in potential losses, the more value these losses gain. The proposed model determines the demand for the asset by composition of two coefficients. A proportion of expected price and current price reflect rational expectations and efficiency of the market in the model. A proportion of the utility of \$1 of possible income in the future and the utility of \$1 of possible losses in the future represent behavioral finance component which implies the level of trust in the processes taking place in the market. Overall, we have constructed the integrated finance markets model denoted as (1):

$$D = \frac{P_1}{P_0} * \frac{\$1(d)}{\$1(R)} \quad (1)$$

$D$  - The demand for the asset

$P_1$  - Expected price of the asset in the future

$P_0$  - Current price of the asset

$\$1(d)$  - the value of \$1 of potential income in the future

$\$1(R)$  - The value of \$1 of potential losses in the future.

In classical models for the increase in  $P_1$  overbalancing the system the market responses immediately by the increase in  $P_0$  normalizing the rate of expected yield. By adjecting a condition that the value of \$1(d) is not equal to the value of \$1(R), an outcome

can appear to be completely different. As a response to the increase in  $P_0$  which can be perceived not as marketing optimization but as objective process, investors will increase the demand for the asset on account of increasing in \$1(d) coefficient (Rubinstein and Nagapetyan, 2015). Hence, the increase of first multiplier's denominator leads to the increase of second multiplier's numerator. Therefore, it is harder to predict the result.

A key question is the following: Two opposite vectors affect the expected yield; further unfolding of the situation is dependent on what component will be higher: The speed of current price growth decreasing expected yield rate or the speed of expected value of \$1 income growth increasing expected yield rate. Thus, as long as the level of trust growth rate is higher than current price growth rate, the rise in prices is to continue. Thereby, the market will become more and more distant from equilibrium state. An efficient market mechanism attempts to balance the situation, but agents are "trapped" by inability to esteem correctly rational and irrational aspects of rise in prices. Considering the rise to be a consequence of objective factors, they behave in a way that even deepens irrationality. Nevertheless, the market will manage to balance, the problem is time and agents' losses.

The rise in prices cannot last infinitely. The second multiplier has limitation in its growth since every agent has psychological limits of trust growth. It means that \$1(d) deviation from \$1(R) cannot be higher than a certain rate. The speed of trust growth will decrease whereas the market mechanism will ultimately bring prices to equilibrium. There comes a point when price influence will surpass the influence of trust maintenance. When it comes to the crunch expected yield rate will decrease on account of rise in current prices, although it will not result in the increase in the second multiplier. Consequently, the demand and current price will decrease. This change will come in contradiction with investors' current expectations. Therefore, the second multiplier will decrease dramatically which will provoke even more decrease in expected yield, current price and a chaos, eventually, will break out. The market by all means has returned to the equilibrium. But how long it has taken and what price has been paid is an open question. A length and amplitude of cyclic instability in the model is directly dependent on people's expectations.

#### 5. CONCLUSION

A great variety of concepts on the topic can be found in economic publications: Theory of rational expectations, capital asset pricing model, Black-Scholes model, behavioral finance, etc. All of the approaches, mentioned above, examine the risk of gaining and risk of loss to be equal, while in our study these risks investigated separately as two full-fledged coefficients. In this respect the analytical model that we propose is somehow new.

An essential question is how the foregoing model can be implemented into emerging markets investment processes. The emphasis of this issue is on BRICS countries. Despite the fact that these countries are the main contenders for FDI inflows unequal distribution still remains to be a burning issue. For instance, FDI in China primarily concentrate on the coastal regions (Chen and



Fleisher, 1996) comparatively neglecting other provinces' demand (Chen and Fleisher, 1996). The same problem can be seen in India where investors focus on the Western and Southern states and territories enlarging the income gap between these regions and other parts of the country (Siddharthan, 2007). The Brazil suffers from the lack of FDI in certain sectors, vital to the economic growth. To resolve the problem, Lula da Silva's government in 2007 launched the Programa de Aceleracao do Crescimento pursuing an objective of increase in the investment rate to 25%. Russia and South Africa address the same challenges. Also we need to remember about the level of development of business relations (Smirnov and Belkin, 2015; Gafforova et al., 2015; Smirnov, 2014).

The contradiction is in the significant divergence of emerging markets from developed ones. Our model cannot solve the problem but can indicate the peculiarities. For instance, in the developed countries, when companies invest in a certain project, they are convinced that this project is to be accomplished and well-executed. However, in developing economies two stages should be distinguished: (1) The initial launch of a project, with high rate of possible risks; (2) the operation of the project in emerging market, with high rate of possible income. These stages are reflected in our model.

Our recommendation to developing countries is a following model of governmental behavior. The government is to develop its country by allocating funds from the budget into regions. Nevertheless, by investing the government should call for investment banks to find FDI. In this case, the risk of possible losses is low as the government gives a certain guarantee to return investors' money back if the project is not carried out. If it is successful, the government will sell out its share and reinvest released funds into other region. Investors will gain a profit and study a new market. The proposed model does not solve all the crucial questions but shows the way of using new coefficients that should be taken into consideration.

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## **Development of the Tourist Health Resort Branch in Primorsko-Akhtarsky District**

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### **ABSTRACT**

The paper studies the condition of the tourist health resort branch in one of the regions of Krasnodar Krai - Primorsko-Akhtarsky district that is characterized by the uniqueness of natural resources and significant recreational potential. The district has development prospects of environmentally friendly resorts, fishing and hunting, the creation of health complexes. Having analyzed the condition, the efficiency of functioning of the tourist health resort complex, having revealed natural and resource potential and the problems of the tourist health resort sphere management in Primorsko-Akhtarsk municipality the paper offers the Increasing Management Efficiency And Quality of Services of the Tourist Health Resort Sphere of the District Project which includes: The optimization of information support of municipal tourist product merchandising at the Russian and international markets, the introduction of new excursion routes, the creation of the health complex.

**Keywords:** Tourism, High-quality Recreation, Increasing Efficiency

**JEL Classifications:** D61, L83

### **1. INTRODUCTION**

Primorsko-Akhtarsky district is one of the original territories of Krasnodar Krai. There is here the unique combination of climatic zones. Being in the center of the Eastern Azov, the District lives and works at the crossroads of three elements: From the West and the North it is washed by the warm waters of the Azov Sea and the Beysugskiy Estuary. Between them there are noble black soils stretching as a kind of the big even layer. And in the south the kingdom flux flows and estuaries stretched in 90 thousand hectares (The Department of the Tourist Health Resort Complex Development in Krasnodar Krai, 2015; Nikolaeva et al., 2015).

The successful geographical position, friendly climatic conditions and the diversified economy are favorable to the investment appeal creation of this territory. However, over the last 5 years in the district there is the natural loss of the population, the industry capacity is used only for 70%, and possibilities of the tourist health resort are absolutely not used.

### **2. MAIN PART**

In the territory of Primorsko-Akhtarsky district 24 entities of collective accommodation means including 17 hotels and guest houses, 7 recreation facilities and forester's shelters, and also 187 private actors, who in the summer season lease spaces for guests, carry on business (The Primorsko-Akhtarsky District Municipality, 2015).

In the territory of the district there are the following collective accommodation means:

- The hotels (including tourist ones and of an apartment type), motels, pensionates of a hotel type, the hostels for visitors and other organizations of a hotel type (Table 1).
- Specialized accommodation means which are health resort sanatorium organizations (sanatoria, health and recreation resorts, treatment pensionates, health improvement camps, etc.), recreation organizations (houses, pensionates, recreational centers, camp sites and other recreation organizations), tourist centers, tourist motor ships (Table 2).

Table 1 shows that the total number of organizations which are engaged in tourist accommodation has grown over 3 studied years almost by 4 times. It is caused both by the growing number of people arriving in the summer season and awareness of the economic efficiency by entrepreneurs while carrying on this kind of activity. In accordance to the increased number of types of rooms the number of persons accommodated in these organizations has also increased. Unfortunately, there are no organizations in Primorsko-Akhtarsky District where it would be possible to go under the special permits, that means that there are no institutions which are engaged in additional providing paid services besides its core business (arrived persons accommodation).

Analyzing the Table 2, it is possible to make a conclusion that every year the number of organizations handling guests and inhabitants accommodation of Primorsko-Akhtarsky District grows. In 2014 this indicator has increased by 3 times in comparison with 2013 and almost by 5 times in comparison with 2012. Such dynamics is connected with the growing number of tourists and also not only local and Russian, but also foreign entrepreneurs' desire (owners of listed organizations) to diversify into hotels and similar accommodation means construction.

We consider that several types of tourism in Primorsko-Akhtarsky district (Zelinskaya and Chernyavskaya, 2012) can be organized.

Firstly, they are excursions and visits of the cultural and educational objects in the territory of the Primorsko-Akhtarsky district municipality which are historical and cultural monuments (Table 3).

**Table 1: The main indicators of collective accommodation means functioning in Primorsko-Akhtarsky district**

Indicator	2012	2013	2014	From 2014 to 2012 in %
Number of organizations, unit	4	5	15	3750
Types of rooms, rooms	171	179	360	2105
Seating accommodation, beds	464	494	942	2031
Number of accommodated people, total	4705	5523	7567	1608
From the total number of accommodated people - they are accommodated according to the permits	-	-	-	-

**Table 2: The main indicators on specialized means of placement, to hotels and similar means of placement in Primorsko-Akhtarsky district**

Indicator	2012	2013	2014	From 2014 to 2012 in %
Hotels and the similar accommodation means				
Number of organizations, unit	3	4	13	4333
Types of rooms, rooms	75	83	250	3333
Seating accommodation, beds	144	174	679	4715
Number of accommodated people, total	2224	26,182	6686	3006
Specialized accommodation means (recreation organizations and camp sites)				
Number of organizations	1	1	2	2000
Number of beds with the full deployment per month, units	300	312	572	1906

Secondly, it is the development of active recreation (hunting, fishing). The objects of hunting in the District are a boar, a fox, a raccoon dog, a jackal, a brown hare, a stone marten, a weasel, a mole, a polecat, a water rat, a groundhog, a gopher, a hamster, pigeons, sandpipers, geese, noble river inhabitants, diving-ducks, a pheasant, a quail, a crake, a spotted crake, a water-hen (The Primorsko-Akhtarsky District Municipality, 2011). In 2014 78,952 fans of active recreation only in 1 residential quarter have visited the district (hunting, fishing on the Beysugskiy Estuary). The Table 4 presents the operating today organizations providing services in the sphere of an active type of tourism in Primorsko-Akhtarsky district.

Thirdly, it is the development of event tourism. Every year, on August, on Yasenskaya spit Primorsko-Akhtarsky District holds the Poetry and Art Song Festival and on the last Sunday of July poetry - The Town Day. Since 2010 the District has been organizing the Hunting Season Festival.

Let's note that the administration of the District for the tourist health resort complex development held the following activities (The Primorsko-Akhtarsky District Municipality, 2015):

1. The reconstruction, production and installation of the entry sign design in the Primorsko-Akhtarsky District Municipality. It has caused:
  - The increasing reputation of the resort territory
  - The development of recreational tourism
  - The development of active recreation (hunting, fishing)
  - The development of event tourism.
2. The publicity releases popularizing a recreational and investment potential of the District that has led to:
  - The increased number of vacationers annually.
  - The increased tax revenues from the enterprises of the tourist health resort sphere to all levels of the budget.
  - The increased interest of local population in the development of the resort and recreational sphere of the territory.
3. The participation in sanatorium and tourist forums, various exhibitions that has allowed:
  - To increase the efficiency of activity of the health resort sphere of Primorsko-Akhtarsky District of Krasnodar Krai due to complex satisfaction of consumers' needs for high-quality recreation and consequently to increase the multiplicative effect in all branches of the consumer sphere.

**Table 3: Cultural and educational objects in Primorsko-Akhtarsky district**

Name of the object, the short characteristic	Status of the object/ an access possibility	Settlement
The armored boat No. 412 established in honor of the seamen of the Azov flotilla	Regional/free	Primorsko-Akhtarsk
The plane set in honor of the test pilot of the first planes with the jet engine	Regional/free	Primorsko-Akhtarsk
Bakhchivandzhi Grigory Yakovlevich		
The local history museum	Regional/free	Primorsko-Akhtarsk
The monument to 90 Soviet soldiers killed during the liberation from fascist aggressors that set in the Brinkovskaya vil	Regional/free	The Brinkovskaya vil.
The memorial complex:		
The bust of the Hero of the Soviet Union Sharov Ivan Aleksandrovich	Regional/free	The Brinkovskaya vil
The mass grave of 674 Soviet soldiers killed during the liberation from fascist aggressors in the Brinkovskaya vil		
The local history museum (astronautics exposition)	Regional/free	The Brinkovskaya vil
The memorial complex in honor of the test pilot of the first planes with the jet engine Bakhchivandzhi Grigory Yakovlevich	Regional/free	The Brinkovskaya vil

**Table 4: The organizations giving services on active types of tourism in Primorsko-Akhtarsky district**

Name of the subject	Type of the service	Existence of objects	Quantity of beds
The Hunters and Fishermen Society of the district	Hunting	92000 hectare	36
	Fishing	(hunting grounds incl. water objects)	
	Accommodation		
The “Kubanokhota” State Hunting Research Station	Hunting	36600 hectare	78
	Fishing	(estuaries, ridges, channels)	
	Accommodation		
LLC “Briz” Sadkovsky plot of the pond fish farm	Fishing		20
SE Denisov A.S. the “Kirpili” tourist hut	Hunting	The recreational center on the Estuary, instructors, boats, tackle	58
	Fishing		
	Accommodation		
LLC “Karlyk” the “Kirpili” tourist hut SE Buvalets P.B.	Accommodation	The recreational center on the Estuary	68
	Fishing	The pond fish farm f. Volchy Svobodnoe set	4 beds and 8 persons without overnight rest
	Fish-breeding		
The Primorsko-Akhtarsk City Public Organisation “Safari”	Water birds hunting	The Kirpilsky Estuary Novopokrovskoe set	Till 100 persons in a day
	Wild boar hunting		

We consider that for the tourist complex development the regional administration must emphasize the uniqueness of natural resources of the District (Zelinskaya, 2015). The main natural medical resources of Primorsko-Akhtarsky district are therapeutic muds, the strong brine of estuaries, the beaches of water objects, mineral waters. Let's also note favorable landscape climatic conditions which can be used for disease prevention, sanatorium treatment and the organization of recreation and tourism. One of the richness of Primorsko-Akhtarsky District is the mineral iodine-bromine waters (medical). In the territory of the District there are 17 perspective wells of the mineral medicinal underground waters. In sufficient quantity there is the therapeutic silt hydrosulphuric mud formed as a result of complex geological, biological, hydrochemical processes. The Azov Sea, the Beysugskiy Estuary and the Akhtaro-Grivenskaya group of estuaries present the ability for fishing (pike perch, ram, carp, sturgeon breeds, etc.). In the territory of Primorsko-Akhtarsky District the enterprises relating to the fish branch operate.

Thus, in the District there are the prospects of environmentally friendly resorts development, fishing and hunting development, the creation of comfortable hunting lodges and shelters. Primorsko-Akhtarsk has also its own feature, highlight that is the small, rich with minerals, well warmed up Sea and the favorable wind rose

which create exclusive conditions for children's windsurfing and sailing development. Every year, on May holidays, Primorsko-Akhtarsk holds the regional sailing regatta.

However, in the midst of the above-described potential wealth there is a set of social and economic problems development:

1. The weak information and marketing work on the resort advance on information space of the Krai, Country, World.
2. The level of information, marketing maintenance of the resort development does not correspond to necessary positioning of Primorsko-Akhtarsky District as a resort.
3. The absence of the unified information center integrating and advancing the interests of all sanatorium, tourist and excursion enterprises of the district.
4. The small volume of tourist services number on the basis of the use of available various types of natural resources, places of tourists' interest, tourist and excursion routes.
5. The insufficient level of quality of provided services and the service for guests in the health recreation complex in general (in comparison with the Russian and international service standards).
6. The poorly developed tourism infrastructure - shell and core and remote places of tourists' interest, historical and



architectural monuments demanding the restoration and reconstruction, the absence in remote recreational territories of tourists accommodation means.

Nevertheless, over the recent years the increasing flow of guests and tourists arriving to Primorsko-Akhtarsky district creates the prerequisites for the tourist health resort sphere development, the complete use of the material base, employment. Considering great potential opportunities for the development of rehabilitation, tourism, hunting, fishing, accommodation of environmentally friendly child care spa facilities, the tourist health resort branch development has to be defined as one of the priority directions in the economy of this region (Yarushkina and Zelinskaya, 2014).

Having analyzed the condition, the efficiency of the tourist health resort complex development, having revealed a natural and resource potential and the problems of the tourist health resort sphere management in the Primorsko-Akhtarsky district Municipality, we offer the activity plan directed on the increasing management efficiency and the quality of services of the tourist health resort sphere in the Primorsko-Akhtarsky district Municipality.

The purpose of our offers is the creation of conditions for ensuring the tourist health resort complex competitiveness, the development and the rational use of natural medical and tourist resources, the creation in the territory of Primorsko-Akhtarsky district of a modern, competitive and highly effective sanatorium and tourist complex available to all segments of the population, the volume expansion and the quality improvement of provided services on the basis of the reconstruction and new building of the tourist resort objects, the resort development infrastructure creation.

The project has been step by step considering three, in our opinion, important activities for the increasing appeal, competitiveness and effective management the tourist health resort complex in Primorsko-Akhtarsky district.

The first activity. Information support for the municipal tourist product advance at the Russian and international markets.

For ensuring the tourist health resort services advance of the Primorsko-Akhtarsky District Municipality at the regional, native and international markets, it is necessary to carry out several steps of the information orientation:

The tourist resort services advance on the Internet. This offer means the maintenance of actual information on tourist resort services providing, accommodation means and tourist agencies operating in the territory of Primorsko-Akhtarsky district on the official sites of the Primorsko-Akhtarsky District Municipality Administration, the Department of Resort and Tourism complex development in Krasnodar Krai, the Ministry of Resort and Tourism Complex Development in Krasnodar Krai; the creation of own sites on the Internet to each legal entity and individual (to a tourist agency, a tourist firm, an individual entrepreneur, etc.) giving resort and tourist services on his territory, and also

promotional and informational ensuring the tourist capacity of the district.

The participation in various exhibitions.

Publishing activities (the release of books, booklets, information and advertising sheets about the municipal district, a tourist product, etc.)

The second activity. The introduction of the excursion route pursuing historical places and sights of Primorsko-Akhtarsky district.

For the quality improvement of the tourist resort service of the population, the expansion of a range of provided services to inhabitants and guests of Primorsko-Akhtarsky District it will be actual along with already existing tourist water routes, such as “V krayu limanov” (“In the region of estuaries”), “V krayu lotosov” (“In the region of lotuses”), “Rozovaya zhemchuzhina plavnei” (“A pink pearl of flux flows”), “Po moryam, po volnam” (“On the seas, on the waves”), the introduction of the municipal excursion route “Po istoricheskim mestam Promorsko-Akhtarska” (“to the historical places of Promorsko-Akhtarsk”).

The route means the movement of an excursion group by bus with the exit to viewing platforms and the visit of the local history museum (Table 5).

The total estimated time of excursion will be 1 h 30 min.

The excursion route represents the most convenient itinerary of an excursion group promoting revelation of the subject. It is made in dependence to the logical sequence of seeing objects, subject to the existence of equipped platforms for accommodation of a group, the need for tourist safety.

One of the route problems is to promote the study of historical events occurring in the territory of Primorsko-Akhtarsky District. In our opinion, it will be therefore appropriate to add the offered route with the exit to the Brinkovskaya village which is in forty kilometers from Primorsko-Akhtarsk.

There are the following objects of the village which are interesting to guests of the district to visit:

- The monument to 90 Soviet soldiers killed during the liberation from fascist aggressors.
- The memorial complex (the bust of the Hero of the Soviet Union Sharov Ivan Aleksandrovich, the mass grave of 674 Soviet soldiers killed during the liberation from fascist aggressors).
- The memorial complex in honor of the test pilot of the first planes with the jet engine Bakhchivandzhi Grigory Yakovlevich.

Due to the need for overcoming the distance between the city and the village, and also the presentation of objects, the excursion time will approximately increase by 1 h.

**Table 5: The offered methodical development of the “to the historical places of Promorsko-Akhtarsk” excursion**

Name of the place of tourists' interest, the characteristic	Stop, organizational instructions	Time
The armored boat No 412 set on a pedestal in honor of the seamen of the Azov flotilla	A group must be brought to a pedestal, “in honor of the seamen of the Azov military flotilla” to tell about the heroes of the Azov flotilla	5 min
The plate with an inscription is located on the left part of board of the armor artillery boat: “In honor of the seamen of the Azov military flotilla” The memorial complex on Bratskaya St. The monument to victims of Chernobyl, the cross memorial badge to the 65 <sup>th</sup> anniversary of the great victory, the monument to the Soviet soldier, the monument to the 50 <sup>th</sup> anniversary of the great victory, the monument to the Soldiers killed in Afghanistan, the mass grave of red army men stele, the monument to the heroes of the union, the monument to the heroes of labor, the grave of guerrillas, the monument to the persons killed in armed conflicts, the eternal light memorial	To make a stop at right place at the memorial complex, to bring a group out of a bus and to guide along the alley	15 min
The local history museum. The museum was built by the merchant Malyshev at the beginning of the XX century, and it had the corn- stocking office	To make a stop at the museum entrance, to invite a group to the museum building where the workers will in detail tell about historical events occurring in the territory of Primorsko-Akhtarsky district	25 min
The plane set in honor of the test pilot of the first planes with the jet engine Bakhchivandzhi Grigory Yakovlevich	On the way, the story is conducted at slow movement of a bus	2 min
Air-technical sports club “Rus” It was formed in 1992. The territory of the former Primorsko-Akhtarsky district airport was chosen for its placement. Besides the territory Air-technical sports club got the planes and parachutes which are also located here	To make a stop on in the parking of the sports club, to lead a group along the territory, to acquaint with the instructors	20 min

It is supposed that the excursion route will have the status of the municipal route. And a tourist agency, which conducts its activity in Primorsko-Akhtarsky district and has won a tender for providing municipal services, will give services in conducting the bus excursion for guests of the district.

In turn, the municipality administration of Primorsko-Akhtarsky district must organize and hold open competition on providing the tourist service. Commercial and non-profit organizations, private individuals of Primorsko-Akhtarsky district whose activity is directed on rendering resort and tourist services to the population can take part in competition.

The third activity. The creation of the health resort complex in the territory of the Lotos tourist center.

Today the rehabilitation in sanatoria becomes more and more popular. And it is quite justified as a rhythm of modern life is that all people need the restoration and preventive procedures, and, perhaps, medical actions also on order to continue further to live and work in such saturated and difficult modern rhythm. Natural medical resources as mineral waters, therapeutic muds, and the strong brine of estuaries, the Azov Sea, the beaches of water objects, landscape and climatic conditions and others which are available in the municipality territory can be used for sanatorium treatment and prevention of diseases.

The essence of our offer consists in the health resort complex accommodation in the territory of a recreational zone of Primorsko-Akhtarsk which consists of the following infrastructure elements:

- Hotels
- Summer lodges
- Medical offices

- A stadium
- The sports complex for sporting events holding
- A dining room.

The land plot for the project is located around the “Lotus” camp site of 349992 m<sup>2</sup>. The Primorsko-Akhtarsky district municipality administration is its owner. The engineering and transport infrastructure which is in the territory:

- Water supply, canalization (water intake)
- Power supply
- Gas supply (main gas pipeline)
- The installation of telephones.

Access roads:

- Railway station of 5.5 km
- Krasnodar airport of 160 km
- Yeysk seaport of 208 km.

The “Lotus” recreation facility is located in the territory of 18 hectares on the shores of the Azov Sea in 3 km from the center of Primorsko-Akhtarsk and has its sand-gravel beach. Today the recreation facility has the three-story hotel and 5 summer lodges. The hotel has 97 rooms: 4 “semi lux” rooms, 3 “standard” single rooms, 24 “standard” double rooms (letter A), 9 “standard” double rooms (letter B), 29 “standard” triple rooms, 6 “standard” quadruple rooms, 14 triple rooms and 8 quadruple rooms.

The creation of the health resort complex demands the organization on the existing base of giving services on sanatorium treatment. The organization of services in diagnostics, balneology, medical consultation, the development of sports and entertaining infrastructure, the acquisition of medical equipment will allow to put the health resort complex at one level with the best sanatoria of the region, to increase the inflow of money to the territory as

sanatorium permits of this organization are supposed to be realized not only in the region, but also beyond its limits. Obtaining the licenses for these kinds of activity is possible only after the acquisition of medical equipment that is necessary for carrying out medical procedures. Consulting doctor staff of particular specialties is necessary for rendering advisory assistance: Neurologists, urologists, gynecologists, physiotherapists, specialists in skin and venereal diseases, cosmetologists, manual therapists, osteopathists, homeopathists, dentists, medical psychologists, ENT specialists.

Let's notice that the budget of the area is not capable to allocate enough money for the project implementation, therefore its implementation requires the investor involvement. The resort health complex construction in Primorsko-Akhtarsk will allow:

1. At the minimal level of risk to provide to the investor the return of invested funds, after the achievement of declared payback periods the initiated project is also capable to become a constant source of the profit inflow.
2. To increase the efficiency of the health resort recreational sphere activity of Primorsko-Akhtarsky District of Krasnodar Krai due to complex satisfaction of needs for high-quality recreation.
3. To attach Primorsko-Akhtarsky District to the number of the leading centers of the tourist industry of the Azov-Black Sea Basin.
4. To attract additional investment resources to the development of both certain business directions and socially significant infrastructure objects.
5. To provide the additional receipt of tax payments in budgets of all levels.

The resort health complex creation with the high level of service giving services for recreation and improvement will be demanded both by the population of Krasnodar Krai and regions of Russia.

For this purpose that the "Lotus" camp site would have the status of the health resort complex it is necessary to open equipped medical offices directed on diagnostics, treatment of diseases, and also the rehabilitation after treatment in its territory: Therapeutic; gynecologic; cosmetology; dermatovenerologic; neurologic; psychological; dental; clinic-biochemical; the office of functional diagnostics; the endoscopy office; the office of ultrasonic diagnostics; the massage room and SPA procedures.

The presumable sum of costs of the investor for the project implementation is 6.5 million rubles. The investor's means will be spent on the refurbishment of the room, the purchase of equipment, providing with necessary equipment, licensing.

The offices of medical care are supposed to be opened in the second case of the "Lotus" camp site on the ground floor. The available rooms demand the full refurbishment and providing with necessary equipment, office equipment, software and equipment to meet the requirements of normative legal acts for licensing of medical activity. The Table 6 presents the sum of initial investments of money is presented by the investor for the Medical Center Introduction Project implementation in the "Lotus" camp site.

The opening of medical offices will cause the need to expand the staff list having added employees who will directly work in medical offices. The Table 7 presents the forecast of monthly payments of the personnel salary.

The health resort complex activity is supposed to be carried out during the summer season. In this regard, it is necessary to consider constant expenses connected with medical offices work which include production, administrative, depreciation costs, and also the total expenses on compensation. The cost of fixed assets is defined by the amount of carried-out capital investments. It is supposed that the equipment is acquired during the 1<sup>st</sup> year. The change of fixed assets cost by years of the account period is defined by the charged wear. Depreciation norms on the equipment are accepted on business accounts (on the refurbishment of the room - 2%, on the office equipment and the software - 33.33%, on the equipment and other fixed assets - 20%).

**Table 6: Initial investments for the project implementation, one thousand rubles**

Name of the papers of the expenses	Cost, thousand, rubles
The refurbishment of the room	800
Licensing	15
Office equipment	100
Computer equipment and the software	100
Medical equipment	5000
Other equipment (furniture, ventilation, conditioners and other)	400
Total	6415

**Table 7: The forecast of monthly personnel costs proceeding from the quantity rates in the staff list**

Position	Quantity of the rates in the staff list, units	Salary per month, rubles	Total expenses per month, rubles
Head of the Medical Department	1	30,000	30,000
General practice therapist	2	21,000	42,000
Neurologist	1	21,000	21,000
ENT specialists	1	21,000	21,000
Cosmetologist	1	26,000	26,000
Specialists in skin and venereal diseases	1	27,000	27,000
Gynecologist	1	26,000	26,000
Urologist	1	25,000	25,000
Dentist	1	27,000	27,000
Massage therapist	1	27,000	27,000
Psychologist	1	15,000	15,000
Nurse	5	15,000	75,000
Technical worker	2	10,000	20,000
Total	18	261,000	352,000

**Table 8: The expenses on the depreciation of fixed assets, one thousand rubles**

Name	2016	2017	2018	2019
The refurbishment of the room	16	16	16	16
Equipment	1000	1000	1000	1000
Office equipment and the software	67	67	67	67
Other key means	80	80	80	80
Total	1163	1163	1163	1163

The fixed assets depreciation is calculated only for the rehabilitation equipment, furniture, on expenses on workplaces equipment, the refurbishment of rooms does not include the costs for the choice of rooms, licensing. The Table 8 has specified the forecast of the change of fixed assets cost and added depreciation in general for the project in the course of its realization.

The Table 9 has reflected the forecast of the total costs on operating activities is made on the basis of the forecast of the expenses on relevant given above papers of the expenses. The Table 9 has reflected expected calculations of the total costs on operating activities for the whole period of planning.

For the increasing stability of the project, the values of monthly expenses which are put in the calculations are a little overestimated in comparison with average market. The complex seasonal work demands the programs of sanatorium treatment and also the most various improving and SPA programs.

The Table 10 has presented the approximate list of medical and improving programs for guests with the indication of the average cost of a permit during the summer period to one person over one calendar day. The permit price includes: The accommodation, the thrice complex food, medical services within a permit, the use of the beach, the library, the sport equipment, the playground.

The cost of medical services can be 30% of the total cost of a permit. Therefore, knowing the "Lotus" camp site number of rooms, the quantity of beds and the average cost of a permit to one person, it is possible to calculate monthly proceeds from permit sales on the programs (Table 10).

**Table 9: The expenses on operational activities of medical offices, one thousand rubles**

Name of the paper of the expenses	2016	2017	2018	2019
Current costs (The refurbishment of the equipment, work clothes)	50	50	50	50
Costs for the personnel	1056	1056	1056	1056
Sanitary means	20	20	20	20
Depreciation of the fixed assets	1163	1163	1163	1163
Total	2289	2289	2289	2289

**Table 10: The approximate cost of permits on the programs of the project of the "Lotos" health resort complex, rubles**

Name of a permit	"Semilux"	"Standard"				"Family"	Summerhouses (facilities are outside a house)		
	double room	Single room	Double room	Triple room	Quadruple room	double room	Double room	Triple room	Quadruple room
Health-related permit	2800	2000	1900	1800	1700	3000	1200	1100	1000
The permit for aftercare after operations on the digestive apparatus	2500	1700	1600	1500	1400	2700	1000	900	800
"Mother and child" permit	3100	2300	2200	2100	2000	3300	1600	1500	1400
"Healthy backbone" permit	2900	2100	2000	1900	1800	3100	1400	1300	1200
"Pure breath" permit	2800	2000	1900	1800	1700	3000	1300	1200	1100
"Hercules" permit	2900	2100	2000	1900	1800	3100	1400	1300	1200
"Harmony" permit (at endocrine and inflammatory infertility)	3100	2300	2200	2100	2000	3300	1600	1500	1400
"Beauty and health" permit	3100	2300	2200	2100	2000	3300	1600	1500	1400

The Table 11 in several options as optimistic, optimal and pessimistic, at 100, 50 and 25% of the population of the number of rooms of the complex on permits, respectively, presents the calculations of the expected value of money obtained by the health resort complex from permit sales.

The payment for providing medical services is 30% of the cost of a permit, respectively 30% of the revenue on three scenarios are the share of medical care. The expected quantity of money obtained for providing medical services in three scenarios of the development is calculated below in a percentage ratio.

Optimistic scenario, 1 thousand rubles:

$$X = \frac{19008000 * 30}{100}$$

Optimal scenario, 1 thousand rubles:

$$X = \frac{9504000 * 30}{100}$$

$$X = 2851.2$$

Pessimistic scenario, 1 thousand rubles:

$$\% = \frac{4752000 * 30}{100}$$

$$X = 1425.6$$

Further it is necessary to calculate the economic efficiency of the project and the term of its payback according to three possible scenarios considering the income and the expenses at steady price policy (Tables 12-14).

Having carried out the analysis of the cash flow on the optimistical scenario of the medical center activity in the "Lotos" tourist center, it is possible to make a conclusion about the high economic effect of the project implementation till 2019 at the accounting of tax



**Table 11: Monthly proceeds from permit sales at the average cost**

Types of rooms	Number of rooms, units	Quantity of beds, units	Average cost of a permit, rubles	Revenue at 100% of the population in a day, rubles	Revenue at 50% of the population in a day, rubles	Monthly revenue at 100% of the population from permits, rubles	Monthly revenue at 50% of the population from permits, rubles	Monthly revenue at 25% of the population from permits, rubles
“Semilux” double room	4	8	2800	22,400	11,200	672,000	336,000	168,000
“Standard” single room	3	3	2000	6000	3000	180,000	90,000	45,000
“Standard” double room	33	66	1900	12,5400	62,700	3,762,000	1,881,000	940,500
“Standard” triple room	43	129	1800	232,200	116,100	6,966,000	3,483,000	1,741,500
“Standard” quadruple room	12	48	1700	81,600	40,800	2,448,000	1,224,000	612,000
“Family” two-room house	2	8	3000	24,000	12,000	720,000	360,000	180,000
Double room in a summerhouse	10	20	1300	26,000	13,000	780,000	390,000	195,000
Triple room in a summerhouse	20	60	1200	72,000	36,000	2,160,000	1,080,000	540,000
Quadruple room in a summerhouse	10	40	1100	44,000	22,000	1,320,000	660,000	330,000
Total	137	382	-	633,600	316,800	1,900,8000	9,504,000	4,752,000

**Table 12: The cash flow on the optimistic scenario of the development, rubles**

Indicator	2015	2016	2017	2018	2019
Receipts from permit sales	-	17,107,200	17,107,200	17,107,200	17,107,200
Expenses on operating activities	-	2,289,000	2,289,000	2,289,000	2,289,000
Taxes	-	3,421,440	3,421,440	3,421,440	3,421,440
Investments	6415000	-	-	-	-
Total cash flow	-6,415,000	11,396,760	11,396,760	11,396,760	11,396,760
Money at the beginning of a year	-	-6,415,000	4,981,760	16,378,520	27,775,280
Money at the end of a year	-641,5000	4,981,760	16,378,520	27,775,280	39,172,040

**Table 13: The cash flow on the optimal scenario of the development, rubles**

Indicator	2015	2016	2017	2018	2019
Receipts from permit sales	-	8,553,600	8,553,600	8,553,600	8,553,600
Expenses on operating activities	-	2,289,000	2,289,000	2,289,000	2,289,000
Taxes	-	1,710,720	1,710,720	1,710,720	1,710,720
Investments	6,415,000	-	-	-	-
Total cash flow	-6,415,000	4,553,880	4,553,880	4,553,880	4,553,880
Money at the beginning of a year	-	-6,415,000	-1,861,120	2,692,760	7,246,640
Money at the end of a year	-6,415,000	-186,1120	2,692,760	7,246,640	11,800,520

**Table 14: The cash flow on the pessimistic scenario of the development, rubles**

Indicator	2015	2016	2017	2018	2019
Receipts from permit sales	-	4,276,800	4,276,800	4,276,800	4,276,800
Expenses on operating activities	-	2,289,000	2,289,000	2,289,000	2,289,000
Taxes	-	855,360	855,360	855,360	855,360
Investments	6,415,000	-	-	-	-
Total cash flow	-6,415,000	1,132,440	1,132,440	1,132,440	1,132,440
Money at the beginning of a year	-	-6,415,000	-5,282,560	-4,150,120	-3,017,680
Money at the end of a year	-6,415,000	-5,282,560	-4,150,120	-3,017,680	-1,885,224

assignments and other costs. The full payback of investments occurs over the 1<sup>st</sup> year of the center work, monetary receipts exceed initial costs of the project implementation by 78% (or by 4981760 rubles).

The Table 13 shows that the payback of the Medical Center Introduction Project implementation in the “Lotus” camp site by an optimal option of the development comes in the 2<sup>nd</sup> year of its realization and is 141% that includes free money amounting to 2692760 rubles. By 2019 the size of the income can exceed

7246640 rubles that is the positive result of the activity which completely justifies the expenses.

The third scenario of Epy development is the most unprofitable for the first 5 years of the project implementation. The payback of investments and the profit acquisition occurs for the 6<sup>th</sup> year of the medical center work.

The carried-out analysis of cash flows on the Medical Center Introduction Project implementation in the “Lotus” camp site

testifies to its financial feasibility. The project has high values of the commercial effectiveness indicators and the acceptable time limit of the payback. Values of the indicators of the current activity profitability are high. The project is financially realized and highly effective.

Macroeconomic risks of the project are, first of all, connected with possible changes of the financial situation in the country (strong inflation, sharp change in the exchange rate of dollar and so forth) owing to the influence of internal (the actions of the Government) or external (the world prices for oil) factors. These events can have the negative influence on clients' consumer ability. At the same time, according to the present situation in economy internal the tourism and sanatorium services will be demanded at least within 3-4 years from the moment of the present project planning. Thus, within the horizon of this project planning the risks are minimal.

### 3. CONCLUSION

One of the most interesting to tourists regions of Krasnodar Krai, Primorsko-Akhtarsky District, does not almost use the capacity of the tourist health resort branch. Though some types of tourism are also there, their functioning has no system character and needs both diversification and the centralized management. We consider that today it is necessary to increase the efficiency of the resort recreational sphere activity of Primorsko-Akhtarsky District of Krasnodar Krai due to the complex satisfaction of consumers' needs for high-quality recreation. As a result it is possible to achieve the increased multiplicative effect in all branches of the consumer sphere of this territory. We find it possible to realize the following actions for the increased appeal, the competitiveness and the effective management of the tourist recreation complex: Information support of the municipal tourist product advance at the Russian and international markets; the introduction of new excursion

routes; the creation of the health resort complex in the territory of the "Lotos" camp site.

The project that we have offered is characterized by a number of financial and production risks. The carried-out risk analysis and their possible influence on indicators of the project efficiency testifies that these risks are small, and their influence on the project indicators has an insignificant character. Thus, sum up it so far, it is possible to make the following conclusions: The project is financially realized and effective for investors, the project is steady in relation to possible change of values of its key parameters; the financial indicators of the project characterize it as the highly profitable project with the moderate risk level.

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## **Improvement of Agrarian Relations as a Prerogative of the State**

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### **ABSTRACT**

The paper proves that agrarian relations do not fit for the system of modern market mechanisms because their commercialization adverse to the capital interests and social and economic relations humanization. There are objective circumstances causing a prerogative of the state concerning the development and improvement of agrarian relations. First of all, the main criterion of authority statehood is achievements in ensuring food sovereignty and total adequate provision with food supplies for healthy lifestyle. Thus, exactly the state, not the market, has to stimulate the most rational forms of production and land use. Agriculture is the sphere where the interests of entrepreneurship have to be focused not on the market, but on the general state interests. The *laissez-faire* in this sphere has to be expressed in conscious, effective work on the state interest.

**Keywords:** Management of Agriculture, Food Security, Agrarian Policy

**JEL Classifications:** J5, Q18

### **1. INTRODUCTION**

Having forced the authority to speak about food import substitution, external economic sanctions against the Russian Federation has kept the problem of food security up to date. Along with this, the issue of import substitution, while its importance and urgency, is only a part of the important strategic problem concerning the preservation and strengthening of state sovereignty. In this regard food security is one of the main (fundamental) conditions of the state economic and political independence.

The number and health of the people, the productivity potential of economy and social stability depends on food security. Being the statehood basis, food security is fixed in the Article 2 of the Constitution of the Russian Federation: "The individual and his/her rights and freedoms are the supreme value. The recognition, observance and protection of human and civil rights and freedoms shall be an obligation of the state" (The Constitution of the Russian Federation, 2015). It is known that the basic general constitutional human right is the right for life which shall be provided by the state. And as food supplies of each person is the basis of the right for life so far forth food security is a prerogative of the state. According to this situation, the state is obliged to define the most

effective tools of the solution for this problem considering natural features of the country, specifics of agricultural production and agrarian relations.

The evidence of a prerogative of the state in food supplies of each person is shown not only that food acts as the basis of the right for life. First of all, the state character of food security is caused by the fact that without owning the food fund of the country, the state cannot carry out its functions, including on its own internal and external protection: Officials, army, police, law enforcement agencies, and other state institutes have to be fed. Thus, it is desirable to feed subject to medical norms. However, the majority of these "eaters" cannot give something essential to a peasant as an equivalent for his bread.

The historical experience of Russia, modern agrarian policy of the USA, the European Union and other economically developed countries present a satisfactory evidence of this prerogative. But, despite the well-known facts of great reproduction support of agricultural producers by the state in these countries, they are not given the corresponding assessment from the point of view of social and economic essence of this phenomenon. At the same time, in our opinion, this support is the actual nationalization

of a food complex confirming that the management of agrarian production is a prerogative of the state. Therefore, the farmers of Western Europe and other states balance between the market and the state. Thus, all of them who are not satisfied with the capitalist market more persistently demand from the state financial support and price control to agricultural production (Maleichenko, 2013).

However, formally, the farmers seem to be in the system of free market relations. At least, there is no state constitutional act of the agrarian production nationalization. But the extent of real state participation in the agrarian production functioning makes clear that this sphere cannot survive at the market and capitalist environment without the state. Therefore, the direct and indirect control of the agrarian sector development and the main food markets in these countries is a prerogative of the state (Maleychenko and Maleychenko, 2015).

Thus, it is important to be noted that the states provided with their own food do not trust the market in conditions of the relative overproduction of the main types of agricultural production. All the more, there is a confusing fact that in conditions of the chronic food deficiency (even during the Soviet period), food dependence on imports, which was brought into the world by the market reform, and obvious no competitiveness of Russian agricultural production in the WTO system, - the Russian authority hopes for the market "wisdom" (Artyomova et al., 2012). In any case, despite the landowners' requirements and domestic agricultural production degradation, the state is eliminated from the active control over the development of food security. With amazing persistence the experience acquired by foreign and domestic practice in the system of agrarian relations is denied.

There is a confusing fact that the representatives of domestic liberalism who pin their hopes to achieve food security are sure that the agriculture and the market are inseparable. During more than 20 years life shows that this unity is controversial and is obviously not in the best interests of the peasantry, food security, and, therefore, against state sovereignty. But, nevertheless, there are no essential changes in agrarian policy (Artyomova and Yanni, 2015; Artyomova, 2013). The direction of this policy is the liberal ideology expressed by the myth that the restriction of state intervention to market processes is a fundamental condition of economic freedom, and a harmonious combination of individual and public interests. This statement is not just in general doubtful, but it is disastrous in relation to agrarian production.

## 2. MAIN PART

A prerogative of the state in the development and improvement of agrarian production and agrarian relations is caused by essence and its corresponding functions of the state. Among a variety of debatable definitions of essence of the state, in our opinion, the theory of the state as "a public contract" meets it optimally. It reflects the fundamental bases of emergence of the state, the history of its development and modern principles of democracy in the most adequate way (Yarushkina and Zelinskaya, 2014; Zelinskaya and Chernyavskaya, 2012). From the point of view of this theory, the state is historically defined, consciously operated system of

organization of the population activity in a certain territory. Thus, the state is a national association. The defining motive of the state creation as well as any association creation is the unity of the state founders' interests. The essence of the state as an association expresses the common interest which, thus, is state-building. As in any operated association, the obligatory attribute of the state is operating bodies burdened with power for the control over the system - the President, the Government and other institutional structures of the state.

In our opinion, the main thing in the characteristic of essence of the state is the understanding of the fact that public authorities and the state are not identical concepts. If the actions of the authority do not correspond to the interests and needs of the individual or their organization, it does not even mean that they are resisted by the state. The authority can be state, realizing the citizens' interests, and anti-state that is to pursue the policy contradicting national interests, conducting to the state destruction.

According to democratic principles, a real carrier of statehood are the people authorizing government officials to "navigate a ship of statehood" to national well-being and free development of the personality. At the same time, a tradition of the state identification with the identity of the governor and authorities is still strong. Nevertheless, despite it, it is impossible to identify control levers with "a ship," though the fortune of the whole ship often depends on hands these levers are ruled by.

In real democratic state the contradictions between the individual, the state and the authority are inevitable, but it is impossible to consider the state as the subject of power antagonistic resisting to the individual. The state resists to the individual the same as "I" and "We" resist. "We" - is an associated part "I" meaning that in "We" there is a unity of the interests, but at the same time their contrast because in "We" the personality is not dissolved - it coexists with "We." The state is "We," i.e., it is our socialized interest forming "the framework of our hostel." It is some kind of the crystal lattice uniting and holding certain individuals in historically certain system of the activity. It does not absorb their "I" leaving and guaranteeing them freedom of self-realization within generally recognized need. In other words, the person can be free if his freedom does not carry a threat to the state and does not restrain freedom of other individuals.

Why does the individual conflict to his socialized in the state "I"? The answer to this question is important because it at the same time is the answer to the question why it is impossible to effectively realize the general interests using the private interests and market mechanisms corresponding to them. The matter here is in interaction of individual and general. As we know, general is only a part of separate. Separate as the dialectics claims, is richer than general because it comprises a variety of essences of general. Therefore, in any association there is a contradiction because a particle of general in its "I" resist to it as the external objective reality limiting its freedom. The individual cannot yet renounce general for the sake of individual freedom. For example, he cannot refuse to do military service or to pay taxes believing that it is for him better to use an income in personal interests, etc. The



individual has to follow the rules in society which are important both for him when their non-compliance stirs his freedom. But he can also violate them when it is favorable to him. Only few people like to sacrifice their own even understanding the public need for the victim.

The matter is that the person does not always realize the future interest which can be realized only as general. For example, the state can use up resources for preparation to a possible war cutting down social expenses or demanding a certain mobilization of efforts in the best interests of the state from citizens. The person can equally reproach the state that today it uses a lot of up for the sake of general and that it has used a little up in the past to live better in the present.

The separate private interest is subjective also because it is richer and more various than general therefore the individual should make a choice between general and private more significant for him at present. A temptation to solve the private interest at the cost and to the prejudice of general state interest is very widespread practice. There are a lot of examples proving that. One of them that are very widespread is the corruption in authorities, the evasion from taxes, “the shadow economy,” the export of capitals to foreign banks, etc. Therefore, the state is also necessary. Recognizing the need for the state, the requirement of “the prevention of state violence over individual values” is a utopian dream. In this case no constitution even in the ideal but not bourgeois state can be realized without violence because it is the restatement of rights and duties assuming the supremacy of constituted general values over the individual values.

A harmonious combination of the individual and public interests cannot be reached without the state intervention, at least, in conditions of the market economy. However, the need for restriction is not subject to doubt if the bureaucratic intervention contradicts the state interests, therefore, contradicts general interests of his founders or their majority. Actually, any organization assumes the restriction of freedom of its members within the uniting interests. Without endowing any part of the individual interests - values - for the sake of general, the individual loses his right to get a benefit of interests' nationalization. Even the family as a primary unit of the state which is voluntary created by mutual consent, is impossible without the mutual responsibility and restriction of the personal liberty that is the main individual value.

The state as well as the bureaucratic intervention is inevitable because contrary to the liberal statement, general interest can be realized only by the state “intervention.” Otherwise, nobody will pay taxes without speaking about an observance of the price formation, the quality standards, etc. It is enough to pay attention on the way how do the rich and the superrich get rid of the progressive scale of taxation. Another matter is that this intervention has to be optimal, objectively (naturally) caused by the state interests.

The state, being an expression of general interests, is alive developing the organism. Thus, the increasing centralized state intervention in various spheres of the society activity is natural.

This centralization is caused by the nationalization of conditions of the activity of certain individuals, i.e., by multiplication of communications and interdependence of the individual in vital processes which cannot any more be regulated by a commodity connection, and cannot be controlled by individuals.

So, for example, the development of monopolies menaces, on one hand, abuse of economic power, contrary to the state interests, and on the other hand, the monopoly itself needs the state regulation (Zelinskaya, 2015). Therefore, monopolistic capital does not abolish the state, but privatizes and takes advantage of it. Thereof there is the increasing role of the state, the multiplication and strengthening of its functions in the society activity organization. In other words, the increasing part of the individual's interests, first of all, economic ones, is socialized and becomes the object and the function of public administration.

Not only economic conditions, but also the environment: Climate, existence of resources, a unity of national and territorial interests, valid tactical and strategic objectives of social development, the level of self-reliance of regions, the importance of vital means, public safety in various manifestations, the international division of labor, the international situation and others influence the nationalization. One of the most important reasons of the state intervention is the need for production rationalization subject to the limitation of resources. It is especially important in interests of future generations which are not guaranteed by the private interest.

It should be noted that the “automatic” market regulation is carried out not a priori but a posteriori, i.e., not before but after the “illness” is shown in already menacing form. In conditions of globalization it poses hazard to activity of the people and their states. Destructive world economic, financial, ecological crises, bankruptcy of the states and other “externalities” of the automatic market control are the example of it (Artyomova and Belova, 2006).

Along with the system nationalization process development concerning satisfaction of material and spiritual needs of the individual, initially there are the spheres of production which on their general importance are the statehood bases. Therefore, expressing general interests and owing to this fact assuming general power they should not resist to the state. As a result of their functioning the development also becomes the state function. First of all, such spheres are: Land ones including agrarian relations; money and monetary circulation; education, health care, science, military science and war industry, public transport and other branches and spheres expressing the general interest.

The basic principle of active state participation in the management of economy is realization of general interests and a priority of the state interest as the general interest. Thus, there shall not be another power menacing to the state power. So, for example, production and currency of money initially become the state monopoly. The matter is that money as the materialization of general economic and political power become a dangerous competitor of the state power and, as modern practice shows, can be the weapon for the state destruction. Therefore, production, currency of money and

their corresponding institutes will be nationalized and become the state monopoly. The loss of this state monopoly weakens the state and conducts to the loss of economic and state sovereignty, both internal and external.

However, the main bases of statehood are not money, but land relations where the general interest is most obviously shown. These relations are many-sided and represent the unified system forming the state base.

Firstly, the ground is an object of the general interest as the area of the person habitation: A territory, a source of natural resources including a food (fodder) area. Even before the state emergence the primitive tribes defined the borders of their habitation providing them “a fodder area.” With the state emergence the expansion of territorial borders and their protection become its major function.

In this regard, as historical practice confirms, the system of land holding has to provide a unity of the state territory, so, state unitarily of land holding as well (Maleichenko, 2000). That is, at a variety of land use and resource use forms, land holding has to be state. State land holding is especially important for the states having the difficult structure in national, confessional and class relations. In this case, land holding centralization provides integrity of the state and peaceful co-existence of the people who are its formers.

The Russian state history which integrity during the centuries was under the construction on the basis of state land holding is the example of it. At the existence of various forms of land use in pre-revolutionary Russia the state represented by power of the Russian tsar was a valid one land owner. The tsar allocated with the ground according to the class position of vassals and deprived them *ица* their ranks and ground if they were members of the anti-state (anti-imperial) activity.

In Kuban another Cossacks still venerate Catherine the Second “granting” them the ground which was won themselves and developed at their great cost (Zelinskaya and Varava, 2015). However, having different opinions concerning the matter, it is necessary to recognize that the consolidation of such multinational state would be impossible without the state centralization of land holding. Its confirmation is that “disorder” which has occurred with the elimination of the USSR and the abolition of state land holding which have brought international and territorial relations to a head. The international conflicts related to land relations which were resulted from the destruction of Yugoslavia as the unified state, etc. testify to the same.

In our opinion, in order to survive the mankind will be compelled to unite the resources on the basis of common interests and social justice. However, there is still the system stimulating competitive repartition of natural resources on the basis of the force in the best interests of certain countries and the people, land relations have to be operated by the state and be protected from claims of other hunters for the ground. Thus, protecting territorial integrity, the state is obliged to protect also the right of the people for natural resources inseparable from the ground.

That fact that agrarian relations belong to the sphere of special (priority) state interests is caused not only by the fact that the agriculture is the basis of food security and a fundamental principle of life, therefore, of economy, but also that there is no such another sphere of social production which would be the sphere of the absolute general vital interest. Therefore, agrarian relations, at least in Russia, were always a prerogative of the state where a character of land use and the position of a farmer were under the direct control of the state up to 1861 (Melnikov et al., 2012).

It provided the centralization of power in monarch’s hands because without the nationalization of agrarian relations the state power in the agrarian country would be cut down dependent on whimsical power of feudal lords-landowners. There should be no polyarchy in the state which elimination was the deal of the activity of outstanding builders of Russian statehood.

The state should not have food dependence; it has to operate food security. The sharpness of this problem increases as the cities become the center of the state power and the industry. In Ancient Rome the people demanded from the government “bread and circuses,” and power provided this requirement with the state distribution of bread among needy citizens thereby strengthening power. Thus it is notable that the Romans put bread on the first place. It would be advisable also our imperious officials to listen to the ancient Romans in order to pay their attention, first of all, to bread, but not to circuses.

As native and foreign practice has showed, the nationalization of agrarian relations is the regularity of the development of capitalism. Thus, the graver the problem of food self-sufficiency, the stronger must be attention of the state to the management of a food complex. In conditions of the severe shortage of food, the common practice is the introduction of food-cards and coupons. At the same time, on the need for the nationalization of agrarian production in Russia and in usual conditions, specific factors have also an impact. The climatic conditions take one of the first places among them.

A huge territory of Russia, from the point of view of agrarian production, represents mainly a zone of the risky agriculture. Therefore, besides the commercial risk, in the Russian agriculture the natural risk that is the reason of production instability is great. And it is unattractive for commercial investments. Besides, in the majority of regions, beginning from Ural and to Sakhalin, especially in the northern regions, there are no own opportunities for balanced food self-sufficiency. But these regions are rich with mineral natural resources which are necessary for the industrial development of the country. The market cannot adjust commodity exchanges between agricultural and industrial regions.

The thesis that claims that the private market interest is not motivated to the state interest and constitutes for the state a menace of the loss of its sovereignty and disintegration, confirm the numerous facts of the market reality. It is known that pre-revolutionary Russia was the exporter of cheap bread toward the European market. And at this time the population, especially country, was catastrophically deprived of bread. It constrained the industry development and, eventually, has led to a revolution.

The same is today. The grain producers in those regions of the Russian Federation where the harvest was successful are a little worried with the fact that there is the bad harvest in other regions, and already look forward to currency profits on the grain export demanding to lift state restrictions on the bread export. It is a natural market reaction if the state cannot make government procurements attractive and organize the interstate consumption of grain in the best interests of the strengthening of food sovereignty. As a result, the formula-feed industry and domestic animal husbandry degrades. Thus, the general state loss from “scissors” of export grain prices and import meat products prices is obvious.

The need for public regulating administration by the agriculture, in addition to the fact that it is a direct object of the general interest and primary condition of the constitutional right for life, is also caused by that important circumstance that the capital, especially large one, does not commercially strive to agrarian production. There are several fundamental reasons for that.

The agriculture is not the attractive sphere for the capital. Therefore, the large capital does not go to the agriculture. It stops between production and the consumer of agricultural production steadily “knocking down” speculative profit on the food monopoly (Zielinskaya, 2014). Intermediaries “cut” the peasant using his dependent financial position, and the banking capital, taking no risk, guaranteed receives the state compensation of the rate per cent for agricultural credits.

The disinterest of the large capital in investments into the agriculture is caused by the fact that the higher the level of the capital concentration on the same area, the proportionally lower the rate of profit margin. So, for example, in the USA the average profit margin of farm enterprises is lower than the average profit margin in the industry by 2-3 times. It is the contradiction between agricultural production and the capital essence that is shown as that the rate of profit margin on the capital in the agriculture decreases in inverse proportion to its capitalization. Therefore, in the USA and other countries with high concentration of the industrial and financial capital the small and average farm enterprise mainly remains due to the state support. Thus, the state financial support surpasses the profit got by the farmers. And the matter is that: On one hand, the seasonality of production and optimization of time of field operations demands the higher level of equipment concentration, therefore, of the capital on a unit of the processed area as well; on the other hand, the agriculture industrialization increasing the level of power equipment and power-to-weight ratio of production reduces the working period - the time of productive capital utilization. As a result, a considerable and progressing part of time both the technical and human capitals are in lie time - production breaks. It causes the advancing increase in capital costs.

Thus, the lower the natural fertility, the proportional lower the efficiency of investments. It is caused by that the lower the natural fertility; the bigger must be the area which is paying back capital expenses. Thus, there is a contradiction: The biggest area demands the more equipment, but the most equipment demands the biggest area of crops which is paying back capital costs. So, for example,

to pay back the equipment and all techno-genic expenses, at the productivity that is 20 centers from a hectare, it is necessary to sow the area twice big than at productivity of 40 centers. For this reason collective farms and state farms in virgin regions, for example, of Northern Kazakhstan had the areas of agricultural grounds which were numerous bigger than in North Caucasus. With the growth of power security and capital-labor ratio of the agriculture in the USSR the capital productivity ration has being steadily decreased (The State Committee of the USSR, 1988).

At the same time, not only the capital is not interested to be put in risky and marginally profitable production, but also a peasant is not motivated with the market on realization of the public interest because in conditions of the market economy he is doomed to exploitation. From our country history we know the farmer’s attitude to food rationing which necessity was caused by state interests. He did not show his great enthusiasm at the collectivization as well which is also caused by state interests.

The matter here is that the village is economically and politically dependent on the city and the industrial capital which basis is non-repayable confiscation of the ground rent. It means that practically the whole additional product of the agriculture is expropriated without equivalent exchange. The state establishes limit prices for products of the agricultural production being guided by salaries and wages of labor power and receipts of the industrial population. The capital interest thus is that the average profit margin on the capital on the economy in general is higher when a worker operates the less for food supplies. Therefore, in the West the capital is interested and transfers to state financing of the agrarian production. Thus, on one hand, it receives a relatively cheap labor force, and on the other hand, it returns itself a part of profit transferred to the state budget as taxes. It is one of the reasons of the disparity of prices which is not providing equivalent exchange.

The fact that the agrarian production is a prerogative of the state policy is also caused by that the market cannot expect and think about the future. Subject to the agriculture it has the twofold menace:

1. The fertility degradation which in the Russian Federation accepts a catastrophic character.
2. The social village infrastructure degradation and the village itself.

It, in our opinion, contradicts strategic interests of the state. Both things accept a menacing character. The menacing fertility degradation is the result of reduction of organic and mineral fertilizers use caused by excessively high prices of mineral fertilizers and energy resources. The capitalist market is not interested in problems of the native agriculture, its future and food security: About 90% of mineral fertilizers which are made in the Russian Federation are exported to other countries. It shows the essence of the “independent” private interest, first of all, profit!

The decreasing standard of farming, the loss of native seed farming and other degradation processes are added to it. Without the state control and investments it is impossible to provide the

fertility reproduction, the agriculture protection against natural cataclysms, against the invasion of insects and wreckers. So, for example, this year many regions were suffered from drought and other negative natural phenomena: The grasshopper plague, various epizootic diseases, etc. The state system of protection of a farmer is necessary because this deal is beyond the market scope.

The village degradation is also the result of the agriculture commercialization. Maximizing profit due to the economy on costs of production is the basic law of the commercial calculation and the capitalist market. Therefore, is it unprofitable for the capital to support the village? It takes it as a direct deduction from profit because everything that the village spends for itself increases the labor power cost (“the human capital”). So, for example, expenses on food supplies in the family budget occupy on average across the Russian Federation about 40%.

Russia is burdened with the village more than the countries of the West where the farm people figure up to 3-7%. In the Russian Federation the farm people tot up to 26%. The Russian village is not just a settlement, but it is a special tenor of life, a special civilization. Is it necessary to destroy it? In our opinion, it cannot be done. Firstly, nobody waits for these people in the city. The industrialization era has ended. There is no labor power deficiency in the production sphere and the requirement will be progressive to be reduced in the process of production robotization. From the state point of view and from the position of menace of the social situation aggravation it is too unreasonable to fill up the layers of the city poor. Today Western Europe is experienced something the same from the invasion of refugees from military conflicts zones.

It is thought that it is better to create the conditions for normal life in the village using natural advantages of rural living. The amount of the expenses on the state support of the village will not be greater because it is possible to provide a countryman with socially useful work developing the production base. But for the purpose it also is necessary on the cooperative basis to develop the whole processing industry of the agrarian and industrial complex (AIC) with the state support, in the countryside. It will reduce losses from raw materials transportation, will increase the budgetary profit, will increase the wastelessness of food supplies production, and will improve social conditions of the activity in the village, will improve exchange between the person and the nature. The materials which in the city are dumped into canalization and pollute the environment, in the village can change into fertilizer or power raw materials. Besides, from the point of view of the general interest, it is favorable to keep and develop the village as it will provide the owner’s use and protection of the ground.

The preservation and development of the village are also important and in strategic relation: One atomic bomb has destroyed in Nagasaki about 70 thousand inhabitants for some seconds. The rural settlements dispersion and small and average cities increases defense capability of the state. It is one of the reasons which has prevented to make Hitler’s “blitzkrieg” against the USSR. At this time, urbanized Europe actually “was given” him without opposition.

There are many other factors which cause the active public control over agrarian production. The capital is not interested in food security as it is much more profitable to it to import food supplies than to invest in its own, more expensive production. Thus, it is quite natural that the capital has no motivation to contain the village and to provide the welfare to its own landowner. This law is confirmed by that general aspiration of capitals to the countries with cheap labor power and low costs of the capital to the prejudice of national economies development. Therefore, to wait and appeal to the capital that it will come to the Russian village is the same as to urge a wolf to refuse meat having replaced it with the grass.

At the same time, today the agriculture and the AIC of the Russian Federation for import substitution more than ever need the large capital. The matter is that in the USA, the EU and other countries a landowner is socialized by interindustry cooperation, he has on average 7 - 8 people to work for him in the AIC. That is, he is the eighth - the ninth. In Russia, in the best times for the AIC (the 80<sup>th</sup> years of the last century), one landowner has on average 0.5 person to work for him in other spheres of the AIC (The State Committee of the USSR, 1988), but today it is even less. Therefore, the agriculture share in the cost of the AIC production in Russia is 70-80% while in the USA is by 7-8 times less. At such public cooperation a farmer in the USA has still solid state support. Therefore, to overcome this gap, the huge capitals which “the market economy” cannot give to the agriculture are necessary. And with that symbolical support which today gives the state to the agriculture, it is not necessary to wait for a break in import substitution from a Russian peasant.

Thus, there are many objective circumstances causing a prerogative of the state in the development and improvement of agrarian relations. And first of all, within this framework the main criterion of statehood of the authority must be achievements in providing food supplies sovereignty and general security with food supplies in a necessary quantity for healthy lifestyle. Thus, not the market, but the state has to stimulate the most rational modes of production and land use. The agriculture is the sphere where entrepreneurship interests have to be guided not to the market, but to general state interests. The enterprise freedom in this sphere has to be expressed in conscious, effective work to the state interest.

The liberal consumers of bread must understand that the enterprise freedom from the state is possible where it does not affect general interests. Freely, without the state intervention, it is possible to make mobile phones, cars, and a variety of other optional and also often harmful goods and services. The state has to be responsible for effective and high-quality functioning of the food complex. It is its first prerogative. Especially that the hungry person do not need smartphones, Internet, the “hungry” state as well.

Therefore, not nanotechnologies in the field of information equipment, but nanotechnologies in the development of agriculture and the AIC have to be a state priority. Of course, it is also possible to have own smartphone, computer and other devices which are not worse than offshore, but the “satisfied” person has to be the priority state interest, and only then all the rest. It is not necessary to ignore the universal general, eternal law according to which



“... people must have an opportunity to live to be able to make the history. But, first of all, the food and drink, the dwelling and clothes, and something other are necessary for life. So, the first historical act is production of means necessary for real life” (Marx and Engels, 1986).

### 3. CONCLUSION

Marking the end, we consider that the state, but not the market, has to strengthen its own base that is the agriculture and the AIC. If in the USA, Canada, Europe where the differential land rent is much higher, than in Russia where food supplies are much made than it is necessary for internal consumption, the state protects a peasant from the market destruction, then in Russia where there was ever no surplus of own food supplies, the state responsibility for food security is traditionally much higher. Therefore, in the Russian state the improvement of agrarian relations has to be a prerogative of the state as a necessary condition for ensuring food security and state sovereignty. In general, not a peasant as a producer, but the state as a consumer is objectively more motivated to the improvement of agrarian relations.

Thus, generalizing the stated above, it is possible to conclude that agrarian relations do not fit into the system of modern market mechanisms because their commercialization contradicts the best interests of the capital and social and economic relations humanization.

Firstly, the agriculture is not an object of the capitalist investment interest as its functioning and development contradicts laws of the capitalist development. The capital meets here a contradiction to the basic law - to the law of the earned value. It is shown that the sphere of application and expansions of production of the earned value in the agriculture is limited to climatic factors: Limitation of the area suitable for the agriculture; the fertility limitation, the natural limitation of “commercial” needs for food consumption. The efficiency of agricultural production capitalist intensification is limited to the fertility and has no adequate return. Therefore, with the growth of power-weight ratio, equipment-weight ratio and fund-weight ratio the efficiency indicators - capital productivity, profitability decrease capital costs absolutely grow. Besides, the industrialization of production leads to the absolute reduction of a sphere of agricultural labor power application and the progressing decreasing rate of profit margin that is profitability. At the same time, hidden unemployment grows, respectively, the welfare of a peasant decreases and social contradictions become aggravated.

Most of all that circumstance contradicts the best interests of the industrial capital and the city that costs to the increasing material well-being of a peasant and the social infrastructure development of the village increase the costs of the public capital. It happens because these costs increase the labor power cost reducing thereby average profit and the capital profitability. In this regard it should be noted that the policy of the Government of the Russian Federation is exclusively proved from the point of view of the capital. Therefore, it is a deep delusion to speak about its incompetence as it consecutive and persistently advances the capital interests.

Over the quarter of the century of the market reform the capital was not burdened with the NAIC development. It is necessary to perceive this result of capitalization of the agriculture as the system regularity of “the market economy.” Therefore, the development of native agricultural production and the social infrastructure of the village has to be a prerogative of the state. The agriculture is the basis of state sovereignty and the state interests, and a peasant is a person of the state fully assuming state liabilities. Therefore, from the point of view of interests of the state in general and the social justice in particular, the state is obliged to provide a countryman with necessary social infrastructure: Schools, medical institutions improved by roads and other vital services. It is unfair when for the service of privately owned vehicles in large cities and capitals demands multiply more than the ensuring social needs of a peasant and his children.

In this regard, therefore the capital’s own expensive food supplies is absolutely unprofitable for the capital, therefore food import substitution cannot be the system requirement of “the market economy” development. It is unprofitable to the bourgeoisie, and therefore cannot be a strategic objective of the bourgeois government. The measures for food import substitution taken by the Government of the Russian Federation testify that it is a political demarche having a tactical character, but not strategic installation on the ensuring food security, state sovereignty and the development of native agricultural production and the AIC. In our opinion, the complex state program of the agriculture strategic development is the basis of state sovereignty as a priority prerogative of the state is necessary.

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# Conceptual View of the Mechanism of Innovative Development by the Level in the Economy

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## ABSTRACT

Implementation mechanism of innovative development is a very important task of modern economic theory and practice, the solution of which will allow in the long term competitiveness of the country by increasing its advantage in science, education and high technologies in the economic, scientific-technical and other fields. This article deals with some aspects of the mechanism of innovation development at the micro, macro - and meso - levels of the economy, describes the innovative company which is characterized by high-tech capabilities. The principles of managing the mechanism of innovative development at the micro level are the comparative characteristic of high-tech enterprises and traditional industries. This area is also complemented by the consideration of the main provisions of the control mechanism of innovation development at the meso level. Stand and describes specific areas of the mechanism of innovation development in the framework of macroeconomic models and the main provisions of the "triple helix."

**Keywords:** Innovative Development, Mechanism Innovation Firm, High-tech Industry

**JEL Classifications:** L60, O3

## 1. INTRODUCTION

The problems of the innovation development of economy in recent years have become more and more relevant. During this period, the development of Russia, in spite of the difficult economic situation, the country has never put the most ambitious and challenging objectives in principle. Such as: To ensure high rates of economic growth, efficiency and productivity. And, of course, the only possible action to achieve the strategic goals is to change the Russian economy in the innovative way of development. The importance of this issue was reflected in the speech of Prime Minister D.A. Medvedev at the plenary session of the forum "Open Innovation" October 28, 2015, which noted that "despite the rather difficult economic situation, despite the cost, this course will continue" - to support innovative growth of our economy. It has really been a state task. No alternative innovative development does exist, even in a country with huge energy reserves, a country such as Russia.

At the same time it should be noted that Russia still lags behind developed countries in terms of innovation, although in recent years the country has managed to build a system to support them. Meanwhile, it is innovation that should be the main lever of influence on the possible long-term growth of economic prosperity for Russia in the conditions of limited access to other resources and the main reserves for economic development in the near future. Despite the fact those in recent years the country has formed the basic elements of the national innovation system, the potential for innovation in the country remains huge.

The new economy is formed at a certain stage of economic development, when there is a need to change single, outdated and uncompetitive economic systems of other, more progressive. It is important to emphasize that the development of all socio-economic systems is cyclic, because each system has its own cycle of formation and development, which covers the period from its inception to destruction. The continued existence of

systems, their degree of stability due to the fact that each of them has the property of self-reproduction. If the newly formed system is no different from the previous cycle of development is called symmetric or conformal and development - extensive. If a system or a combination of elements from the new properties appears, then the cycle is called an asymmetrical imbalance and acquires the properties: The elements are available from the “old” features and elements of the new. However, the system becomes more sophisticated, and its intensive development.

Thus, important and relevant is to examine the mechanism of innovation development of the country from different perspectives: The economic entity, the sector and the state, as they are characterized by different principles of operation of this mechanism.

## 2. LITERATURE REVIEW

Beginning stage of the formation of the fundamental principles of the theory of innovation and serious research in this area is associated with the name of N.D. Kondratiev. Kondratiev himself was not engaged in direct analysis of innovative issues, but considered them large cycles conditions (long wave) initiated a subsequent study of the causes of these cycles and their duration. The most important reasons were found to innovation.

A significant contribution to the development of theoretical knowledge of innovative development made by such foreign economists as Schumpeter, Drucker, Mensch, Twiss and others.

Austrian economist Schumpeter in the early XX century developed the basic theory of innovation. He is in his “Theory of Economic Development” (1911) for the first time considered the “new combinations” of changes in the development and gave a full description of the innovation process. Schumpeter identifies five changes in the development of: (1) The use of new techniques, processes, or a new market to ensure production; (2) the introduction of products with new properties; (3) the use of new raw materials; (4) changes in the organization of production and logistics; (5) the emergence of new markets (Schumpeter, 1982).

Concept Schumpeter was developed and some other Western scholars, in particular the leading American expert on management Drucker in his book “innovation and entrepreneurship.” According to him, for the innovative development of the economy need to strengthen innovation, which is not technical, and economic and social concept arises from social needs, rather than the logic of the development of science (Drucker, 2007).

German scientist Mensch, based on the ideas of Schumpeter, offered its classification of innovation in order of importance. He identified two main types of innovation: Basic, improvers. Mensch considered cyclical and growth in relation to the process of reproduction of the basic innovations. With the spread of basic innovations happening exhausted its potential and creates a situation of “technological stalemate” and the stagnation in the economy (Mensch, 1975).

American economist Twiss understands innovation as a process in which the invention or idea becomes the economic content: This unique process that combines science, technology, economics and management. He is to obtain a novelty and lasts from idea to commercial reality, embracing set of relationships, production, exchange, consumption (Twiss, 2009).

Also in the development of the theory of innovation economy made a great contribution to Bell and Cannes, to develop the concept of post-industrial society (Bell, 1986). Various aspects of the present stage of development of society and the economy is seen as Galbraith (2004), Deming (2006), Jensen (2004), Crawford (1999).

Features actual innovation disclosed in the writings (Arrow, 1962; Besen and Raskind, 1991; Wright, 1983).

In Russia, since the late 1990, the problem of transition to an innovative way of involved (Abalkin et al., 2004; Dezhina, 2001; Inozemtsev, 2000; Lvov, 2002; Novitsky, 2009; Yakovets, 1993; Yasin, 2006).

Studying together different points of view on the researched topic leads to the conclusion that, due to its integrated nature, a common opinion about the mechanism of innovative development by the level of the economy in the scientific community is not yet formed, making it difficult theoretical justification to now in Russia incentives innovative development.

## 3. THE MECHANISM OF INNOVATIVE DEVELOPMENT WITH THE POSITION OF THE COMPANY

### 3.1. Micro Level

Referring to the theory of the innovative company developed Latsonik (2006). According to this theory, to generate innovative results innovative firm as opposed to optimizing firms that accept these conditions as “given” to transform the market and competitive conditions.

In addition, the innovative firm as defined conditions and does not take fixed costs of participation in the industry. At current prices of factors of production level of fixed costs characterizes the innovation strategy of the firm. In fact - It is a strategy of development of productive resources, and it is connected with the decision of the quantity and quality of these resources, in which you need to invest to develop technologies and products that are qualitatively different from those that were available earlier or to be developed by competitors.

Thus, the company creates innovative capacity to gain a sustainable advantage over its competitors and secure a leading position in its industry. It should be borne in mind that:

- Such a development of productive resources will be successful only if embodied in products and technologies with the best production quality than those that were before;
- Innovative investments entail significant fixed costs compared



to similar costs at competitors who have chosen optimization under given constraints;

- Increase in production costs is provided by the fact that the innovative firm uses in the production process a significant amount of variable resources.

However, on the one hand, the innovative company is characterized by high production capabilities (high-tech, and therefore more productive capacity) than the competition. On the other hand, for innovative firm's peculiar increase in production costs, it is characterized by a kind of competitive failure.

Therefore, we can assume that the innovative firm to overcome the lack of competition must:

- To invest in the development of productive resources, the use of which as a variable resource becomes a source of rising costs.
- To achieve a high level of utilization of productive resources developed.
- To improve access to markets to resolve the problem of handling the potential demand for their goods in real demand, which will require additional investments in distribution, sales and service, in advertising and promotion to inform and convince potential buyers exclusivity manufactured goods. As a consequence of the price elasticity of demand for the product will be reduced, as the perception of higher quality customers reduces their willingness to reduce the volume of demand with growth rates (Lazonick, 2002).

Thus, the mechanism of innovation development creates the opportunity for the company:

- Not only to expand its market share, but also to prevent competitors to gain access to customers, both now and in the future, as to when customers repeat their purchases of goods and innovative firms increase their demand for them.
- Gradually take possession of a variety of market segments, which are based on different levels of income buyers.

For example, consumers with higher incomes will be less sensitive to price changes, so the initial stage of company, manufactures innovative product has access to a segment of the market, defined by this group of customers. And to satisfy the demand of high-buyers, the firm receives revenue conducive to mass production and sales, thereby achieving access to customers with lower incomes and are therefore more sensitive to price.

If the company produces traditional products using technological innovations that improve product quality and reduce costs, in this case, the innovation strategy will be aimed initially at the low-income markets. However, in the subsequent stages of the firm may enter and for higher-yielding markets due to the advantages in the characteristics of the offered goods, which she got through technological innovations.

Next, we determine which firm (enterprise) can be classified as innovative. In our view, they should be classified as follows:

- Innovation active enterprises that produce innovations, products, and are actively engaged in research and experimental

development (R&D) for the formation of a reserve that allows to realize innovative breakthroughs in the market.

The enterprises that are receptive to innovative technologies and are able to respond quickly to technological innovations through the modernization of production facilities.

In today's economic realities, innovation is not only a company that in its purest form involved research and development and commercialization, but all the firms that were involved in the competition not at the expense of extensive development, and due to the intensification of all activities with the use of advanced management, marketing and technological approaches to business.

As you can see, modifying the existing market conditions (not taking them as a restriction of their activities), innovative companies in the market are dominant. All this is due to a modification of the structure of industry costs, the formation of an active demand for their products and the production of a significant amount of output than innovative enterprises would be able to sell at lower prices in comparison with optimizing firms in the industry.

It should be noted that the management mechanism of innovative development at the micro level should be based on the following principles:

The principle of an innovative susceptibility, based on the fulfillment of the conditions for the rapid modernization of production facilities based on the latest technology of the emerging new technological order.

The principle of innovation activity, which focuses on a generation of innovative ideas, conducting its own scientific and technological developments and their implementation in the form of innovations in the market.

Organizations that have chosen an innovative (organic) way of development, over time, be able to create and constantly develop unique competitive advantages, *trudnovosproizvodimye* competitors due to the fact that the innovation process - Is a complex and lengthy process of turning innovative ideas into a product that flows under the influence of numerous external and internal factors that at some point in time can stimulate or inhibit the development of innovative enterprises.

In fact, innovative development is a complex and lengthy process of innovation organization, comprising a set of objectives, planned activities, the system of motivation and ways of financing should be a strategy of innovative development of the enterprise, which will ensure that the principle focus of innovation development. The implementation of this provision is objectively reduces the amount of consumed financial, human and material resources. During the innovative development requires serious investments in the future of the enterprise, however, this limits the ability of the current economic growth (due to a decrease in working capital) and leads to a decrease in yield (profitability) due to the growth of debt the company during this period. In this regard, there is a need to implement the principle of balance of current activities

and strategic innovation. Otherwise possible crisis or bankruptcy may occur. Innovative development requires the active use and development of theoretical approaches and scientific management.

### 3.2. Meso Level

The essence of the changes caused by the mechanism of innovation development at the macro level shows that modern developed economies are divided into two sectors - industry of traditional industries and high-tech industries, which are closely linked. The economies of these two sectors require unequal management techniques, strategies and methods of government regulation (Nikolaeva et al., 2015). The essence of these differences - different concepts of the functioning of markets and firms in these sectors.

Some distinctive features of enterprises manufacturing high-tech enterprises from traditional production, reflecting their specificity, are presented in the Table 1.

Understanding how markets function and firms in sectors of traditional industries, is directly based on the situation of diminishing returns: Companies that lead the market in the end, faced with constraints so that a predicted equilibrium prices and market share. This theory was developed by Marshall and is still popular in today's economics textbooks.

Yet at the present stage in the structure of the developed economies of major importance is the market innovation. As part of this market is made the displacement of the main mechanisms that govern the behavior of economic agents. These changes can be explained by the concept of increasing returns: The market leading position occupied by vendors that can increase the gap between the competitors at the expense of innovation activity and receptivity to new technologies. In this situation, those who lose the championship - losing him forever, since increasing returns is a positive feedback mechanism, aimed at strengthening the successful enterprises, and the weakening of those who bear the losses.

At all stages of the high technology manufactures their profitability is higher than in traditional industries. It should be

noted characteristic of the largest and most successful high-tech industries - a significant portion of their products is predetermined to meet the needs of the general population. Therefore, hence the high rates of return (the average in the world economy is considered a normal level of profitability to investment capital at a rate of 7-8%) (Arthur, 2008).

In connection with the above, it is logical to conclude that the high-tech (high-tech) sectors of the economy subject to the law of increasing returns for the following reasons:

1. Development of high-tech products is laborious and complex, which determines the high costs of their production, falling as growth in their sales. Sale of high-tech products, their additional production brought enormous profits while actually single, although high, development costs. For example, the first disk Windows, which was released by Microsoft, was worth \$50, the second disc and the subsequent - \$3. CD Duplication information or floppy copy almost cost nothing, because the marginal cost of software is almost zero (Lyubimtseva and Surnyaev, 2006).
2. Many high-tech products - it complements the goods in relation to goods from other manufacturers (without the use of the latter is not possible). Thus, these high-tech goods must not conflict with the network users. For example, the software - it is a complementary product to computers and all products of the information and communication technologies (ICT) industry. As is known, the use of ICT products is impossible without the software.
3. Since the use of high-tech products is difficult, all this requires proper training. Consumers, those who had once invested in such training, with the appearance of other versions of this product you need to update these skills.

Analysis of the differences between traditional and high technology sectors allows us to highlight the following. First, the traditional industry - a sector of mass production, operating on the principle of diminishing returns and producing products that require overhead inexpensively knowledge; secondly, high-tech industry - a production, operating on the principle of increasing

**Table 1: Comparative characteristics of the production of high-tech enterprises and the traditional industrial enterprises**

The criterion of comparison	Company	
	High-tech industry	Traditional production
The presence in the activities of innovative nature	The experimental nature of pilot production	Duplication products
The magnitude of the costs of operating activities	Associated with a high level of uncertainty	It is easy to forecast
Chance of regrouping activities	Difficult as the limited specificity of the main focus of activity is the limiting factor	Permissible
The ratio of credit institutions to enterprise data	Most often a negative attitude, because the high level of risk, uncertainty, innovation and a long time lag of return	A positive attitude, if there is a reasonable business plan (the stability of cost, schedule and results)
The duration of the impact of the results of activity	With technology innovation, the duration of the impact of their implementation is much higher (almost 2 times). When hardware innovation duration of its life cycle is limited	Depending on the duration of the life cycle of the equipment
Engineering	Traditional, uncommon novelty items	The use of advanced technologies mainly
Attitude to innovation	Stimulation of the process, the possibility of obtaining, exploration and development of scientific and technological progress (NTP)	Using the results of innovative activities

the impact and is a “concentrate” of knowledge with respect to traditional low resources.

It should be noted that the distinction between traditional industries and high-tech is conditional. The economic meaning of the category “mass” product is that its price almost no rent for the use of a particular technology, which is typical for the pricing of the products of high-tech industries. This rent to some extent covers the risk of the use of specific technology consumer surplus due to increased prices for quality goods.

As mentioned above, the high-tech industries at the stage of initial production goal of reducing costs is to a lesser extent. However, the problem arises when the aim is the quantitative increase in output. Accordingly, there is a change in the direction of the production technology of mass production, particularly focus on the use of cheap resource. Since some products (for example, personal computers) begin their life in a world of increasing returns, but later during their life cycle actually become commodities owned sector of diminishing returns.

Management mechanism of innovative development at the meso level should provide leadership development of knowledge-based industries, the objective of which is the basis of the following provisions:

- High profitability of high-tech industries (high-productivity industry) makes them attractive to investors.
- The emergence of new high-tech industries by value mechanism makes it possible to reallocate part of the newly created value and provide a local increase in profit margins of some producers. Thus, in the new production of free capital will rush into the credit or financial forms that will lead to an increase in the capitalization of technology companies. As a result, the market will expand, creating a new type of consumer and, therefore, will be a new market.

Permanent development of new markets at the macroeconomic level has led to the emergence of a specific mechanism that enables:

1. Constant redistribution of the cost of the newly formed based on old technological order productions, improved production.
2. The positive effect of acceleration of aggregate demand balancing the proportions between income and consumption, a significant increase in consumption throughout the economy by increasing productivity, reducing the cost of high-tech products, as well as goods in the production of which they are used.
3. A large impact on the dynamics of aggregate supply through the implementation of the principle of increasing returns, which greatly accelerate the reaction of proposals in response to changes in demand.
4. Increase the flexibility of supply and demand, enabling it within the boundaries of the loop to provide a short-term increase in the supply of adequate accelerated growth in demand.
5. Specific pricing mechanism for knowledge-based, innovative products (Bendikov and Frolov, 2001), the value of goods is

determined by changing individual attitudes potential customer for this product, and therefore will be variable. This, in turn, determines the dependence of the manufacturer, operating in a saturated market conditions, its ability to create a product that has a unique “innovation value” or “individualized value” (Karacharovsky, 2002).

The traditional idea of the pricing mechanism based on the fact that the value of the average level of prices implies costs for the production of a product. But this is only true if you do not take into account technological sectoral differences.

However, we must take into account the existing differences between the levels of technology in various sectors, which is characterized by filling in the form established by the applicable technologies and resources. Still, the economy-wide data levels provide a common national level of technology. Taking into account the relationship of the industries in the sense that each branch essentially produces resources for other sectors, the principle of complementarity can be identified (complementarity). According to this principle, all economic entities within the same technological level are interlinked and mutually intertwined with the technology used at this level.

Of particular note is that the greater the share of high-tech industries in the structure of production, the more the principle of complementarity extends to all the technological level of social production. When there is a new innovation paradigm that begins to develop innovative new products, and then there are new industries. However, it is important that the flow of innovation is also fed into the old existing sectors of the economy, there is increasing added value and providing a significant increase in productivity. As a result of technology transfer from the old to the new branches of the traditional industry is a “fusion” and the evolution of innovative paradigms. Thus, there are two directions of development of basic innovations. The first - is the formation of new industries that produce new and innovative products. Second - it’s penetration into existing traditional industries, which gives impetus to the growth of productivity and even results in the appearance of new products through fusion.

#### **4. THE MECHANISM OF INNOVATIVE DEVELOPMENT FROM THE PERSPECTIVE OF MACROECONOMIC**

The underlying factors of the effectiveness of innovative development at the macro level are the growth rate of public expenditure for the development of science and education, rational innovation policy of the state, enabling the tax, credit, depreciation policy, etc. An important macroeconomic indicator of innovative activity - the gradual convergence of the volume of expenditure on R and D of each country and the capital. Macroeconomic indicators of such activity are the number of intellectual property (particularly patents, licenses) per 1000 population, the balance of foreign trade, high-tech products and others. Also on innovative activity at the macro level affect the intelligence of the nation,

the people (set of abilities and creative talents of the people, their educational qualification and cultural level), the optimal combination of market-based instruments of self-regulation of the economy with the state and supranational regulation, pluralism of ownership, competition, etc.

Within the framework of macroeconomic mechanism of innovative development should be focused on:

- Compliance with quality of resources used in the system of social production
- Synchronization of technological change in all spheres of the national economy
- Perception of the innovations of all economic actors
- The formation of a highly skilled workforce
- Promotion of shared interest in each other business entities
- The need for interaction between business entities and development of a coordinated position in the system of economic priorities.

Consequently, at the macroeconomic level, the basic principle of the control mechanism of technological innovation in favor of a balanced focused on the formation of a higher technological order.

In the context of Russian reality, the actual implementation is the triple helix model, developed by Etzkovitz and Leydesdorff (2000), which is based on a prospective role of the university as a leader relationships with business and government. These relationships are built to produce new knowledge, innovation and economic development. The model of innovative development of "Triple Helix" includes three main elements:

- In a society based on scientific knowledge, is characterized by strengthening the role of science in conjunction with business and government.
- The three institutions (science, business and government) tend to cooperate, with, innovative component of this is due to the interaction, not at the initiative of the State.
- In addition to the traditional functions, each of the three institutions, "partially takes on the role of another." Institutions capable of performing innovative features considered the most important source of innovation.

## 5. CONCLUSION

In summary, we can say that the innovative development - an objective process of transformation of the socio-economic system to a new state through the materialization of knowledge in new technologies and the formation of a stable system of relationships of objects of innovative infrastructure to improve the quality of the resource potential and enhance the competitive advantages at all levels of the economic system. The logical structure of the mechanism of innovation development of the economic system consists of interrelated and interdependent elements defined by different levels of social production and differing principles and objects of management. So at the micro level of the economy management mechanism of innovative development ensures the implementation of the principles - innovation activities of enterprises and their susceptibility to resource-saving technologies.

For the industry level is characterized by the development of technological innovation and increasing returns complementarity of production factors. At the macroeconomic level, the main principles of this mechanism act as a technological balance, focused on the formation of a higher technological order.

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## **Approaches to Implementation of Motivation as the Complex Conditions of Increase of Efficiency of Social and Labor Relations: International Experience**

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### **ABSTRACT**

The relevance of studies motivating work mainly compounded by the extensive way of formation and development of the Russian economy that emerged in the last decade low innovation activity of employees and organizations in general, "deficit" highly skilled and motivated workers, especially blue-collar occupations. In addition, over the past 20 years there have been many changes in people's minds: To change the structure of motives of labor behavior of workers and staff of the organization system of values, the composition of prestigious professions and, finally, change the value of labor in society. In modern conditions for national competitiveness, sustainable development of the country as a whole and individual organizations and companies need to use powerful and effective resource - human capital. Intellectualization of the modern Russian production sets new requirements for the workforce, which in turn requires the development of science labor economics. Management issues are extremely complex motivation, as labor behavior is the external manifestation of internal interests, motivations, attitudes and values of the person. For their resolution requires a systematic approach, a comprehensive study of man at work.

**Keywords:** Innovation Activity, Efficiency, Control of Personnel

**JEL Classifications:** D2, G1, J08

### **1. INTRODUCTION**

Today, most economies are recognized as the most significant challenges in working with human resources. In different countries there are significant differences in approaches to increase motivation to work in the factories. This is most clearly manifested in practice they are Russia and the West. In turn, the Western practice of increase of motivation are not homogeneous. There are fundamental differences between the way the run in the US and Japan; a middle position between these extremes took control of Europe (Zhuravlev et al., 1998).

Everyone, without exception, top managers need to know how to interest subordinates to work for the good of the company. Of

course, each manager chooses his way to motivate employees: Some feed workers gingerbread, and some, and threaten them with a whip. There is no single answer to the question: "What tool is best for management of modern worker: To encourage or keep at bay by threatening dismissal or reduction of salary?" In the West, we took the position that a valuable employee should be respected and valued, because of its knowledge and ability and loyalty. It depends largely on the productivity of the company's success in the market.

### **2. RESEARCH METHODOLOGY**

Theoretical and methodological basis of the research presented methodological approaches, conceptual provisions of labor economics and business production and trade sphere.

In the apparatus Instrumentation and methodical research were general scientific principles of a systematic approach, methods and comparative analysis of the situation. Information and empirical basis of the study are the works of foreign and domestic scientists devoted to the problem of modernization of enterprises, data centers and public research sites; materials of scientific conferences in the field of planning control staff, improve the efficiency of motivation and stimulation of employees production and trade enterprises.

### 3. THE MECHANISM OF INNOVATIVE DEVELOPMENT WITH THE POSITION OF THE COMPANY

The main approaches to the motivation to work in the United States, Japan and Europe.

1. American labor motivation characterized the approach to the worker as a labor force, an emphasis on individualism (working individuals), individual decision-making on the basis of official authority, the implementation of short-term hiring
2. American organization characterized by rapid assessment and promotion of an employee at work, specialization of activities, formal, quantitative methods for evaluating employees
3. The employee is regarded as one of the means to achieve the goals of the organization. It also ignored their own goals
4. The main strategic objectives of the operation by means of implementing organizations in the US are a material interest, and competition, leading to a strong victory
5. Americans are adapted to a system in which the worker sells his labor for a fee. It does not give employees dawdle; they know they have to work hard to get their salaries, otherwise they will be dismissed (Zhuravlev et al., 1998).

Managers are the leading class of modern society, it is through them the company can achieve a competitive advantage. But they arrogate to themselves a disproportionate share of the effect (in monetary terms) by the effective operation of the enterprise market. Now CEO of the United States earn an average of 475 times more than the average factory worker. In 1980 - just 42 times (Prokhorov, 2002).

Of great interest is the system of remuneration "payments for skills" (PFS), which developed the American specialists. The point is that the employee is not paid for what he does, and his knowledge. Paid not work, and the growth of his qualifications in the first place - other activities mastered them. As an advantage, it is possible to allocate a growing self-esteem of employees, the labor process does not become so routine as before, but also, most importantly, a missing employee can always be replaced, because the flexibility of the labor force is fully capable. Employees, by rotation, are becoming more mobile, reduced staff turnover and job satisfaction increases, due to increase in productivity reduces the loss of working time, increasing product quality. The mechanism of UGC includes the notion of "unit of qualification," which determines the amount of knowledge and skills required to perform additional or new job and getting bonuses.

An important factor in the introduction of this system is to serve the administration of the agreement and the trade unions, because without the use of UGC may have the opposite effect. With the development of each new specialty, the employee receives an increase to the basic earnings, but it is important that the knowledge acquired was used in the work.

An important can be considered the fact that American workers have expressed their approval of UGC. After all, wages are now dependent on their abilities, not on seniority or administrative decision.

Goodwill motivation, which governs the behavior of the employee on the basis of expression of public recognition is done by presenting letters, insignia, public incentives, the room pictures on the board of honor. The US also used valuation model on the merits, that is, remuneration an employee receives is directly proportional to the volume or quality of the work performed (Kibanova, 1997).

Now let us consider the system of motivation of employees at Japanese companies, which is fundamentally different approaches:

1. In Japan, different management practices focus on employee (employee - the center of business activity). The approach to the employee as a person. Japanese worker on an individual price is not working out, and for his contribution to the work of the staff and the total productivity of the enterprise
2. Collective decision-making (full co-operation, teamwork). Japanese companies are carefully selected and a set of its employees by functional groups. This ensures maximum interaction with each other and, as a consequence, leads to a very good quality of the results
3. Implementation of long-term (life) of employment is perhaps the main feature of Japanese companies. Confidence in the future - that is necessary for each employee, and the heads of the Japanese companies know this
4. The Japanese company is also characterized by the gradual, slow evaluation and promotion, thin informal control mechanisms of activity of workers, lack of rigid specialization of workers. Important criteria for evaluation are: The attitude to work, neatness and punctuality, cooperation with colleagues, focus on fulfillment of production programs
5. The main strategic means of achieving the goals of functioning in Japan believe the loyalty and unity of the employees, their dense and continuous cooperation.

For Japan, characterized by avoiding public reprimands, usually negative issues are resolved one by one. The Japanese company - is not so much a technical-economic system in which people come together for a joint work as a system of social, community-minded related mutual obligations into a single "industrial family." "Family firm" - one of the most popular slogans of Japanese companies, which in practice is implemented as follows. Employed - "children" - must continually demonstrate their commitment and "to give himself to his own family," work hard and put the welfare of the enterprise in the first place. For this, thanks to the care of the "fathers" of heads, they will be provided with jobs, good living conditions and ever increasing income. Not forgetting

the material basis of such a system, pay attention to the social and psychological component. The system of motivation reoriented, come first moral factors: Bad you cannot work at the firm, cannot fulfill their obligations and meet the expectations and trust of colleagues. If labor is dominated by such motives, the need for strict regulation and control is eliminated (Zhuravlev et al., 1998).

An example of a country that implements the system of remuneration of employees of the humanistic, can be regarded as Japan, where the “amount of remuneration is determined primarily by social factors rather than economic.” Here create such economic conditions for developing not only the positive qualities of the worker, but also his skills and knowledge. It is strongly encouraged, as it is now or in the future, be useful for the company and the employee (Zhuravlev et al., 1998).

Exploring the motivation of labor European companies, it should be noted that the distinctive features of motivation of employees cannot identify. Everything is in one way or another is borrowed from American and Japanese companies. However, the basic motivational approaches in European enterprises are based on the following items.

1. Selection of workers based on the principle: For each position a worker, that is, specifically looking for an employee with a narrow specialization. The employee the right to take decisions only in those matters in which he is competent. At the same time workers are employed specifically for his work and accurately understand the direction in which he should improve themselves. A positive result, which he can achieve in their field, will contribute to the growth of professional qualifications and will not go unnoticed for guidance
2. On the basis of wage workers are single tariff agreement governing payment of fare and a variety of additional benefits, taking into account the specific conditions of work. Abnormalities in the collective agreement can only be for the better, but that the employee would have to work harder as a constant rate does not change, and the variables just depends on the income of the employee
3. Management of the company is continuously developing activities to stimulate the activities of employees, which are aimed at high-performance and efficient work. At the end of these activities is carried out certification of employees. Employees who have received the highest marks - are awarded, and the rest - are working on their mistakes
4. The process of diversifying education and training of employees is continuously
5. Participation in the management of ordinary workers through the supervisory board. In addition, European companies have works councils, which are elected by the production teams and represent the interests of workers. The works council is not a trade union organization and represents only the interests of the employees of this company. The opinions and ideas of each employee can be heard, which means that if his offer rationalization, management is required to honor its employee mark.

According to research conducted by Western recruiting companies (Michael Page International; Mumme, 2010), small

businesses, employing 60-100 people. Pay more attention to the cash component than large. They have to pay 20-60% more than the world-famous enterprise brands. A typical strategy for small businesses - is to attract highly skilled workers and a sharp increase in their salaries. At the same time observed that workers receive an increased salary is not loyal to the company, and turnover among the “overbought” specialists is much higher than among employees, grown within the company. To prevent the development of such negative factors, experts recommend creating the structures favorable psychological climate. The employee must feel ownership of what the company is doing. Then wages would go to the back (perhaps temporarily), and the employee will cease to think about the application of their abilities in other enterprises where pay is higher.

Note some examples of motivation “by money.”

In France, large and medium-sized enterprises the wage fund is adjusted according to inflation. The administration fixes the amount for the coming year. The increase in payroll should not exceed inflation growth.

The UK industry is very widespread system of profit sharing. The variable portion can be up to 20% to be paid in the form of premiums or accumulated on the pension account. It is believed that such an approach to labor motivation provides a high degree of identification of the interests of the company and the employee (employees). The owner of the shares may feel their involvement in the company. Managers periodically report the income of the enterprise, which is formed from the production of high quality products and its successful implementation. In this case the share price increases and revenue, and the company and the employee. If manufactured products of low quality and poorly implemented, the share price is reduced not only the company, but not every employee is awarded.

It is clear that the spectrum of human aspirations and desires of a significant, and measure it not worth the money alone. No coincidence that many well-known international companies in hiring “a valuable frame” trying to figure out his intrinsic motivation. Leaders are not against high wages, but it must be sure that a worker in the first place, is not motivated by a commitment to big money, and the interest in the new case.

If we compare Japanese and American practices of labor motivation, it may seem that their “creators” adhered to the principle of “do the opposite,” since any element of management practices demonstrates the opposite approach (Zhuravlev et al., 1998).

Thus, analyzing the main trends of American and Japanese companies in the development of motivation, it is possible to form a common component of the modern universal approach to work motivation:

1. Long-term ties with its employees now. With increasing duration of these connections increases the possibility of optimizing the system of motivation. In Japan, it is implemented within the lifetime employment, and in leading



- US companies' longstanding relationship motivated by relevant material and moral means
2. Constant and general education and training of workers. The high rate of scientific and technological progress are responsible for the increasing rate of "depreciation" of knowledge. Therefore, a process of continuous in-house training, training and retraining of workers, as well as regular training is continuous. This increases the motivation to work as an employee with a higher qualification is the most valuable asset for the company and therefore brings great profit
  3. Broad participation of employees at all levels in the administration. This involvement takes various forms: From the delegation of employees to higher management bodies to the government workplace. Self-management is manifested in the fact that the executor (within its competence) in the workplace have the right to independently carry out the planning, organization, control and regulation of the production process. He has a right to make and implement solutions to optimize their work (Zhuravlev et al., 1998).

The main approaches to the labor motivation of workers in the United States, Japan and Europe can clearly see the causes of this rapid and, importantly, stable economic development. Each of these countries has found for itself a reasonable proportion of intangible and tangible approaches to work motivation. This balance is built on the principle that the two approaches complement each other. Counting on workers, companies in these countries and still achieve good results. Implementation in Russia at the moment changes in the forms and methods of management and organizational structures aimed at promoting entrepreneurship and the development of market relations enterprises with different forms of ownership, are often not sufficiently effective, and it does not reach the set goals.

The question of why, in practice, most of the world models of work motivation of employees has not taken root in our country, there is no single point of view. Most believe that the reason our mentality, traditions that have historically formed over the centuries. Some believe that our leaders still simply "not mature enough" to the proper professional level, not only to be able to adequately assess, but also the right to apply the methods of the Western system of motivation. One of the main reasons for this is a weak security reforms necessary personnel capable of unconventional, in a professional manner to solve complex problems of transition to a market economy. To solve this problem is to promote the orderly and effective system of motivation of employees.

The current system is inefficient increasingly obvious, any radical changes are undergoing. Russian leaders believe that only financial incentives fully regulates the productivity of workers. While the West has long taken into account the social aspect of the question. Foreign practice motivation originated much earlier than our domestic, and through trial and error got to that level, which is now trying to master and implement many countries. Meanwhile, over the last 20-30 years in the world of labor economics underwent major changes. And these changes have helped many foreign countries to raise their economy on a high

level. However, an increasing number of domestic enterprises attempting to introducing the concept of foreign motivation. These efforts are not always, or rather, almost never ends well. Often, these failures do not depend on the socio-economic conditions, which remains the enterprise, and directly from the warehouse of the mind and character of a leader.

In Russia, most businesses do not consider it necessary to invest in their employees' money and knowledge, as the process of return takes time and it is not always come quickly. Plus, a highly qualified employee may demand higher wages, and this is not one most coveted item of expenditure. This guide does not want to understand that the more invested in the labor collective and each worker, the better it works, more profitable and thus brings the company to a more competitive level. Understanding this proportion becomes almost the main issue for local leaders. Therefore, in recent years it has become increasingly popular training areas for senior and middle managers. In a process that explains the benefits of international practices of labor motivation of workers, the proposed method of implementation of the integrated systems of motivation or individual elements on the domestic enterprises, the necessity of continuous and comprehensive training of workers, explained the importance of the introduction of a social component, which has a direct impact on productivity.

Despite numerous attempts to wrap foreign experience in labor motivation of workers from the theoretical to the practical, it becomes obvious that in Russia such a motivation system to settle down very hard, but this does not exclude the fact that you can borrow and implement the most appropriate to our approach in managing the performance of employees, some elements of the American or Japanese model of motivation.

We single out some of the practical recommendations of international practices to enhance work motivation, able to make qualitative changes in the Russian enterprises (Shkurkin et al., 2015):

1. Introduction of the shifted schedule. The company's employees have the opportunity during the week (month) to freely dispose of their working time, which is useful in everyday life, it eliminates undue stress at work, due to the impossibility at the right time to solve its domestic problems, solves the problem of unauthorized abandonment of their jobs and the hidden loss of worker time. The system is used in almost all Western companies.
2. Bonuses time. Employees are given the opportunity to perform the application of the rules at the time at which they are able to do so. Surplus-time worker can be used for its intended purpose. Used with a clear agreement on the exclusion of revision of standards development.
3. The introduction of payment for any innovations. It takes the initiative (or a proposal), and immediately paid a small fee.
4. Supplement or prize-smoking employees. We introduce a permanent supplement to non-smokers, i.e. a monthly supplement to the rate (salary) in the amount of a certain percentage or permanent bonus-smoking employees. It is used in the majority of Western companies. There are two sources of

- additional payments: Due to smoking (i.e. an underpayment), due to a special fund
5. The introduction of an annual performance appraisal. By special program and methodology to assess the number and quality of work for the year. From the results of independent certification and assignment of a Christmas bonus of the next class, discharge, etc. Spend all firms in Japan and most of Western European firms. In Japan, held 2 times a year in Europe - 1 times
  6. The annual competition of professional skill. Competitions are held on separate mass professions. The prize-winner receives a large prize and becomes known to all the staff. The most developed in the United States
  7. Informal communication in the team. The practice of regular informal meetings of employees that help rally the team, allow to allocate the informal leader, through which further questions can be solved by workers. In the West, widely practiced joint visits in the country, the organization of evening recreation, contests, etc.

Not surprisingly, poor motivation of employees to work is one of the main places in the list of reasons for preventing the growth of any business venture. Today, every manager must be aware of the importance of motivation of employees, in fact it affects the productivity of individuals and businesses in general. An effective program of motivation - is both a goal of the company, the achievement of which will most fully unleash the potential of every worker, and a means to achieve other goals of the company. The work of motivating employees is necessary to begin from the moment of their arrival to the organization.

The purpose of incentive programs - improving the efficiency and quality of work, and, ultimately, the success of the enterprise market and its competitiveness. Employer must always be remembered that the workers - a long-term investment and a genuine motivation to work is possible only when the work in the company contributes to the continuous development and improvement of professional skills of the employee, allowing him to feel popular.

Of course, the move mechanically American or Japanese experience in our economy is simply impossible. However, it would be useful to the analysis. This will help in the search for new approaches to address the challenges that the modern Russian leader has to face every day. A comprehensive analysis of international experience, his judgment, will help businesses create and adapt new system of motivation.

It is not necessary to consider the motivation in part because of its tangible and intangible components always form a single complex, competent practical application which immediately gives the company positive results (Kobersy et al., 2015). In addition, experience the best of Western leaders show that success is achieved by those who not only puts the problem in front of subordinates by any means to pursue them, and has the ability to be interested, light, inspire staff to perform the tasks of the company, to form a team of like-minded. This means that the motivation of the employees work in modern production is

the economic foundation of high performance in all categories of the labor collective.

The study author's dissertation topic has been suggested that there is an objective relationship cyclical economic crises and the effectiveness of motivation, which is undoubtedly worth considering the examples of Russia and European countries.

Theories explaining the business cycle can be reduced to two large groups: Externalities (external) and internalizing (internal) theory.

Externalities theories explain the cycle influence of external factors: War, important political events, and discoveries of new oil fields, demographic, scientific and technical discoveries, innovations, and even bursts of solar activity.

Internality theory pay attention to the mechanism within the economic system, which gives the impulse to self-replicating business cycle. Expansion, reaching the highest point of prosperity, generates compression, reaching the lower limit mark, leading to the revival and activity. For example, if the beginning of a sharp jump in economic growth, in a short period of time will produce a huge amount of new capital goods. A few years later these benefits, for example, machines, and equipment will be worn. They will be replaced, and it will give impetus to inflation, and so on.

Most modern economists are in positions of synthesizing, and externalities of internal theories. Explaining the longest cycles, they attach critical fluctuations in investment and production of capital goods. The initial cause of the non-permanent and variable oscillation cycle are external factors, such as technological innovations, demographic situation, political upheavals, and so on. D. However, the frequency and regularity of cycles depend on internal factors, such as total net investment, production growth, employment. Assume inventions and discoveries not directly affect the cycle, but their effect on the economic use of the level of activity and consequently productivity.

Consider the number of economic theories that explain the causes of economic cycles and crises, thus placing different priorities.

It is necessary to highlight the views of Karl Marx (Marx, 1847), who saw the main cause of recurrence in the contradiction between social production and private appropriation of the results, because in a capitalist economy wealth produced by the majority of society, and consumed - a minority.

An alternative to this view can be considered as a theory of under consumption economist Robinson (Robinson, 1969) Hobson (Hobson, 1900), Foster (Foster, 2009), Catchings (Foster and Catchings, 1923), which explains the lack of cyclical consumption. Under consumption causes overproduction of goods and provokes a crisis. The main way of preventing crises - stimulating consumption.

Proponents of the theory of over-investment, on the contrary, it is believed that the cause of the cycle is more excessive than insufficient investment (Hayek and White, 2007; Mizes, 2009).

Inflows expansion accelerates, causing imbalances in the financial and economic mechanism of the system.

The existing theory of disproportionality, or “disequilibrium” (Hayek and White, 2007) explain crises lack proper proportions between sectors, natural actions of entrepreneurs, government intervention in the market economy. The theory of the “political business cycle” is based on the fact that there is an inverse relationship between unemployment and inflation, which is determined by the Phillips curve, i.e. Unemployment decreases and prices rise (Avdoshina, 2006). The ruling party is trying to vary the rate of inflation and the rate of unemployment, dropping them to win in the upcoming elections. After coming to power, the administration is trying to reduce the rate of growth of prices by artificially provoking the crisis, and by the end of his reign, the power begins to solve the opposite problem - to raise employment levels. Last causing a rise in prices, but the calculation is made of the fact that the choice of the level of employment will rise and inflation will not have time to reach full strength.

Interconnection market institutions, the state, the regime of accumulation of goods, the internal mechanism of the regulation of these complex processes and analyzes the crisis in the theories of regulation (Aglietta and Orléan, 1998 and Boyer, 1997). Proponents of this research direction is considered as an internal mechanism of management as well as external factors: War, clashes between social groups, and existing social form of the system. Psychological theories explain the cycle of change of mood of the masses, affecting investment. So, panic and confusion crisis situation lead to the stagnation of investment, taking capital abroad, and a positive attitude in a lifting stimulates the growth of investment.

A significant place among the factors influencing the cyclicity belongs trends in the development of scientific and technical progress. Theories to explain the innovations in the production cycle using important innovations (Schumpeter, 2004; Hansen, 1959, and Kondratyev, 1991). The active part of fixed capital become obsolete in the next 10-12 years. It requires updating and, further to stimulate economic recovery. Economists emphasize the importance of capital as the source of the phenomenon of the cycle. In a series of some economic variables are always experiencing large fluctuations than others. For example, fluctuations in the cycle in the food industry may be barely noticeable when the decline in production of steel, cars or tractors, is obvious. Branches of production of consumer durables and capital goods show the greatest cyclical fluctuations.

The well-known Russian economist Kondratiev (1892-1938) considered the cause of long cycles of radical changes in the technological base of social production and it's restructuring. Kondratyev conducted analytical comparison of a number of economic indicators that characterize the dynamics of the world capitalist economy. The Austrian economist Joseph Schumpeter, studying business cycles, has proved the concept that the main driving force of long-term fluctuations of the capitalist economy are construction cycles, which have an average duration of

17-18 years. Simon Kuznets (Kuznets, 1953) and Goldsmith (Goldsmith, 1984) isolated 20-year-old building (reproductive) cycles, which are the driving forces behind changes in reproductive patterns of production. In general, economists say reducing the frequency of cycles due to the accelerated timing of the renewal of the capital under the influence of scientific and technological achievements (Kobersy et al., 2015) in the modern world.

The study of cyclical social reproduction is not only important for understanding the nature of economic crises, but also to prevent them, mitigate their negative manifestations, forecasting fluctuations in investment and production, development of strategy of state regulation of the economy. Thus, the decision to invest in any sphere will be more reasonable and less risky if they are counted upward and downward wave.

Companies taking a decision regarding investment and output, on the assumption of future prospects. If, in their opinion, the next period will bring a depression, they will seek to reduce the investment now. On the contrary, if they expect that after 6 months prices will increase significantly, they will take the time today to buy goods, to buy equipment and expand construction. The success of the management of economic crisis depends on the timely and adequate action of the state apparatus of managers, entrepreneurs and investors.

Above we have presented a common approach to the explanation of the causes of the cyclical development of the economy. Besides those already mentioned, you can call a number of factors and contradictions in the economy generating crises and cycles, in particular, that a complex effect on work motivation of employees and the workforce and productivity of different types of businesses (Modern-econ.ru, 2015):

- A clear contradiction between the organization of modern production and natural character of the market;
- The contradiction between production and consumption - production and consumption in a market economy is constantly expanding, but the expansion of consumption most often starts at a certain stage to keep up production;
- The physical life of the means of production and upgrade, i.e. periodicity of crises caused by the massive renewal of fixed capital, sets the time frame of the economic cycle;
- Sale of goods on credit can lead to a crisis of insolvency;
- Militarization of the economy leads to a diversion of resources from other sectors where they could stimulate the growth of output and employment.

All these reasons development cycle economy equivalent with respect to each other, and the nature of cycles and crises they can be explained only in aggregate.

The terms of the reasons given cyclical development of the market economy is constantly updated, with the development of modern economies and their transition to a post-industrial type of production. Factors hindering the economic progress at the present stage of development of society, the factors leading to modern crises are: The imbalance between economic activity and human nature; inefficient use of human potential; imbalance in scientific, technical, economic, environmental and social components of



economic growth; weakening incentives to work and accumulation in the society.

Considering the problem of the relationship cyclical economic crises and the effectiveness of motivation in today's Russia, it is necessary to dwell on the study of labor migration. Skilled emigration cannot be stopped without giving up basic freedoms (Pecoud and Guchteneire, 2007). Due to the crisis and the destabilizing factors in the development of the Russian economy assumes particular relevance problem of emigration of the working population in search of higher wages. The so-called "brain drain" (large-scale) can be a serious obstacle for innovation and economic development. In the context of opening up the country's only way to solve this problem - the economy. Large enterprises independently solve this problem by individual conditions and salaries (Today Russia wins, for example, in Israel, the struggle for qualified young professionals from among immigrants from Russia - they come in such numbers that the problem discussed in the government of Israel) (Jurgens, 2008). But overall balance in the field of migration of the working population in Russia is negative. Scientist and economist, noted that the two should work out special measures of state regulation.

The first - to create a mechanism for the sharp (often not even at times, and an order of magnitude) and the point of increase of salaries in the public sector. No categories of workers, and especially valuable leaders and groups is due to the pay scale. This is primarily a small group of teachers of educational institutions of the world level (otherwise we run the risk of losing the final school in the exact sciences), leaders in medicine, biology, etc. This measure should be primarily to prevent the departure, but also the return of the left.

The global economic XXI century crisis opens up new opportunities for Russia to attract (return) highly qualified managers and specialists, if the state can intelligently manage the available financial reserves. This has been China, it is worth noting that it is useful to look at this experience.

Second - to enter the high price of education in the high schools (or departments), whose graduates easily find jobs in the West. Initially, the cost of education will be covered by long-term state loans, with a full refund (term) in the case of departure for work abroad, in part - in the case of employment in the private sector in Russia (perhaps due to the direct payments of the employer), and progressively the full maturity in When working in state institutions. This mechanism will not stop the brain drain, but will enable the reproduction and development of the most successful universities. Two factors may be contributing to the brain drain, even with prosperous economic development - stagnation in the political sphere and the growth of ethnic Russian nationalism. Under certain circumstances, this can turn into a "fatal" threat.

It is natural to assume that international migration has its own special structure. People leave not only in search of better jobs. They go to school, for family reunification, participate in sports, etc. According to the survey, the total number of migrants 98.25%

went to find highly profitable operation. With regard to the study, the corresponding contingent of migrant workers amounted to only 1.27%. In terms of this population also are serious problems. The vast majority of those who are guided by the higher education institutions of other countries after graduation, do not return to their homeland. This is a testament not only to the low income of specialists with higher education, but also the prestige of modern professions in Russia. Young people with higher education, who graduated from universities in other countries are not satisfied that the basis for career development in the Russian Federation are not put objective criteria. To a greater extent in the number of test career advancement and parochial used related communications. Moreover, professions related to science and higher education, because of the extremely low wages do not enjoy prestige among the youth. Common causes of migration can be very diverse. In our view, the last well, systematized by researchers at the World Bank, and look, as shown in Table 1. On the question of the basic causes of migration respondents gave very interesting answers. 51.7% of respondents pointed to poverty as the main reason for such a decision. 46.7% of respondents referred to the lack of work. 0.8% (UNIFEM, 2009) of respondents as a reason for call admission to higher education. 0.4% said that the main reason for their departure to work is the need for training. I think the answer to the question about the causes of migration are accurate and reflect the real situation (Migration and Remittances. Eastern Europe and the Former Soviet Union. The World Bank, 2007).

External labor migration is primarily a large macro-economic importance to the countries exporting labor force and for the recipient countries of foreign labor. On this subject, we conducted numerous studies that confirm this assumption. The economic consequences of remittances generated through a number of channels. They are reflected in the reduction of poverty, the reduction of unemployment, reduction in income inequality among households. In this context, they are essential in the sections of both macroeconomic (i.e. at the household level). In addition, remittances have a certain influence on the dynamics of economic growth by increasing the investment potential of the society. They play an essential role not only in ensuring social, and macroeconomic and financial stability (Information-Analytical Center, 2009).

**Table 1: Motivations for migration of the working population of the Russian Federation**

Causes	Repulsive factors	Pull factors
Economic and demographic	Poverty Unemployment Low income High fertility rates Low levels of health and education	The possibility of high earnings The ability to improve living standards Personal and professional development
Political	Conflicts danger violations Mismanagement Violation of human rights	Safety and Security Political liberties
Socio-cultural	Restrictions relating to ethnic, gender, religious and similar reasons	Combining with family Ethnic homeland Non-discrimination



Last connection is conducted primarily by increasing volumes of effective demand. This growth is particularly evident in Russia. If remittances in 2004 were equal to 14% of GDP, while in 2008 they had already reached 65%; total GDP. In this regard, Tajikistan ranks first in the world. This is followed by Kyrgyzstan, Moldova, Armenia, Albania, Bosnia and Herzegovina.

Remittances, as we know, are partially used for current consumption, partly to supplement the household savings and invested. This will be discussed in the final part of this section. Theoretically, we can assume that if the remittances are used for investment purposes, or invested in bank accounts, their macroeconomic consequences will be very noticeable. However, the data for the CIS shows that the bulk of remittances is used for current consumption, and substantial amounts are used for the education of children and savings (10%), as well as an investment of households (5%).

Considering the direction of the study of motivation and economic crises, of particular importance in the context of this problem becomes a situation of socio-economic crisis and motivation in Japan following the natural disasters in 2011.

According to the theory of international management, designed to explain the specifics of the behavior of different cultures in his work, the Japanese society is a so-called "male society." Among the basic features of such a society is the most important subordination of all vital installations values related to work. The work takes place in the basic behavioral patterns, which are formed within the "male society," and the behavior characteristic of this society, and women demonstrate. To overcome the socio-economic crisis, the effects of natural disasters in Japan in 2011 to help these inherent in the Japanese population factors (including motivation):

1. Socio-cultural roots of Japanese industriousness;
2. Organizational and economic factors of motivation;
3. High-level indicators of work ethic in Japan;
4. Qualitative changes in the workplace;
5. The position of the older generations of labor;
6. The situation of youth in the labor market;
7. Increase the duration of the overtime working hours.

It is said that the dynamics of the socio-economic crisis of the world economy offers a large number of scenarios of recession, countries such as Japan, Spain, Greece, Portugal, etc. It is important to note the primacy of reflection unstable situation in these countries to their residents, including the level of the working population, their consumption capacity, its negative dynamics due to low wages, it delays and chain. All this leads to low productivity, production crisis.

According to the official version, supported until recently, anyone could say that the Spanish workers enjoy an enviable position, thanks to the social rights that protect them. Reality itself has attended to dismantle this version, it is necessary to analyze the official data.

The number of unemployed in Spain 4613000, bringing the unemployment rate is 20.05%. However, official sources claim that

other countries suffer as much or more than Spain, the international crisis. The unemployment rate in the euro area is 9.97%. This distinction is the best proof that the Spanish crisis has its own roots, and among them are our institutions work.

We single out a special group of indicators of crisis labor instability in Spain. Of those unemployed for more than one-third is considered long-term (more than 1 year are unemployed), and therefore for them each time more and more difficult to get out of a situation in which they find themselves. Their skills are becoming obsolete, reduced work motivation and businesses who know them less and less willing to hire them.

In addition, the number of employees working at the present time, there is a large percentage of workers in unreliable conditions. 24.39% for wage earners, have a seasonal contract. Rating seasonality of this magnitude is unprecedented in Europe, despite the fact that there was a decrease from the beginning of the crisis (the rating in 2006 was 34%). In Russia, in addition to permanent staff, there was a subclass caught in the trap of instability that pinned their subsequent chain of seasonal short-term contracts. In 2008, for example, in Spain, 2.7 million were signed contracts of <7 days duration, and 5 million at least 30 days.

Considering the specifics of Russia's motivation, managers often mistakenly believe that the crisis problems with staff performance should not be, because the employees understand that their claim to a place thousands of laid-off, willing to work for lower wages. Thus, the fact of preservation of workplaces of employees is seen as motivation for better and more efficient operation (Bagirova, 2011).

The problem is that the environmental conditions of instability and numerous layoffs of employees in all areas of the economy turned out to demotivate staff. Thus, according to the Russian Federal State Statistics Service, the number of unemployed in Russia in December 2009 was 6,173,000, an increase over the month by 42 thousand (Newsru.com, 2010).

Motivation of staff in crisis requires a change in the system of material and non-material incentives. Material incentives staff management is a complex issue. Proper construction of a system of material incentives for staff requires knowledge of HR-specialists in the field of economy and finance, psychology, management.

Financial reward is crucial in work motivation, and its meaning for the employee is not confined only to offset the costs of time, energy, intellect, are spent by an employee in achieving the organization's objectives. Monetary compensation, or rather, the form of its preparation as well as the relative and absolute size, employee perceived as evidence of his value to the organization, self-esteem affect the employee directly speak about his social status (Sosnovy, 2012).

In a crisis, the internal motivation of employees undergoing significant changes. Begins to dominate the motivation of avoiding failure, fear of layoffs, reductions and reduction of income. In this situation, employee's financial incentives must be built in

accordance with the following principles.

1. With the reduction of the fixed income given the opportunity to earn at the expense of its variable part of the achievement of specific, relevant company results. Today, one of the major trends - the transition from the remuneration to be paid results. This is due to the fact that the dependence of the variable part of the salary of the result motivates employees to improve the quantitative and qualitative performance indicators to better address the various economic, administrative and other tasks (Lvov, 2004).
2. Bringing to the attention of all employees of their personal goals directly related to the business objectives.
3. Explanation of staff how their income is generated, for which they are now being paid. Employees need to know exactly: In the performance of the conditions they will receive a bonus prize; how to determine the value of them relying Award; in what time frame will be disbursed.

In economics, the labor law is justified, which says that if the administration sees every manifestation of active workers and encourages the activity of workers increases, they work more efficiently, and the organization receives a large profit. At the same time we must not forget that the incentive system should be beneficial for both the company and the employee himself. As for employers award, as well as other elements of labor costs, are primarily the costs of production, a very important issue is to determine the maximum amount of funds that can be directed to the incentive payments, to the effect produced on their bonuses, is not exceeded.

In order to ensure the effectiveness of bonuses must adhere to: The sum of all bonus payments for any value of over-fulfillment of targets can not exceed the amount of profit, resulting from the application of this system.

Regular monitoring employees to achieve their goals in the form of reports, common "five minutes," meetings and others.

#### 4. CONCLUSIONS

Sharing the results of the analysis of the theories and approaches of research work motivation generated by domestic and foreign scientists: D. Atkinson, W. Vroom, F. Herzberg, E. Lawler, D. McGregor, A. Maslow, E. Mayo, L. Porter, H. Rampersad, V. Gerchikov, as well as the possibilities of their use in practical economic activity or as a theoretical base of management personnel, as a result of the study, identified the following conclusions.

The most common problem areas are:

- Weak enough opportunities to formalize the analysis of motivation;
- The lack of methods for studying the interdependence and interchangeability of the individual interests of the person;
- Lack of theoretical elaboration of issues related to the procedure for compensation of some deterioration in the conditions of employment of other improvements;
- Separation of some motivational theories on external factors

driving change in the existing socio-economic conditions and the system of modern Russia;

- The complexity of research in the field of dynamics of targets individuals;
- Undeveloped optimization criteria the level of employee satisfaction and efficiency of work (from the standpoint of personnel and organization) in the current conditions of economic activity.

From the standpoint of system-activity approach it is fundamentally important to the consideration of motive and motivation of labor activity as a complex systemic formations in the economic behavior of the person, its social and economic priorities, structured on a variety of characteristics. To date, the domestic and foreign theory and practice formed quite a single view of the classification of motives that cannot, unfortunately, be said about the classification of motivation of labor activity, to which the author of the theory of motivation traded infrequently, often identifying motivations and types of motives.

Critical analysis of the currently used classifications of motivation of labor activity revealed their fundamental shortcomings, including: Lack of scale and measure the internal content of the "motive" and "stimulus" of a single employee of the enterprise; substitution of concepts "motivation" and "encouraging," in connection with which there is a need to separate motivation on tangible and intangible; trend of the XXI century. Denial of the non-financial motivation.

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## **Psychological and Economical Aspects of the Competency Approach the Paradigm of Higher Education**

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### **ABSTRACT**

In the article the role of education in the modern world, contains an analysis of the psychological and economical aspects of the modern paradigm of higher education in Russia, basic education and psycho-pedagogical problems in formation of modern professionals and managers, social and psychological shape modern managers at all levels. The higher education system must address not only the direct educational objectives but also to prepare specialists capable of solving the difficult psychological and psycho-pedagogical problems in a post-industrial reality. The paper presents an analysis of the literature on the stated issues, discloses the concept of competence and expertise detailed guidelines for implementing competence-based approach in higher education.

**Keywords:** Economic Education, Key Competence, Psychology Paradigm of Education

**JEL Classifications:** A20, H70, I20

### **1. INTRODUCTION**

In modern society, education is the most extensive philosophical, cultural universals. In education, students are busy more than a billion and nearly 50 million teachers. It is difficult to overestimate the importance of social and psychological formation of speaking about the prospects of development of mankind. Education, especially higher education is an essential factor in economic and social progress. The main capital of modern society is a man of his intelligence and the system of values which formed the psychological and social profile of the person, the individual, and expert. The existing education system in the world undergoes reforms. In the last 10-15 years, scientists are increasingly talking about a global crisis of education. American scholar and activist education Coombes spoke about the backwardness of progressive educational content from the modern horizon of science and technology, as well as its non-compliance of the changed conditions of society that lead to the devaluation of the

value of higher education. The main contradiction exists between the high rate of development of science and society and the low rate of renovation of educational content.

The higher education system must address not only the direct educational objectives but also to prepare specialists capable of solving the difficult psychological and psycho-pedagogical problems in a post-industrial reality.

Solving the problem of competence of the expert was necessary and in demand in connection with the search for a link between vocational education and practice, as each business operates independently (in terms of content and conceptual) units. These units in the educational process are the knowledge, skills and experience in the professional sphere - competence. With respect to our research, it is about creating conditions in the learning process when the psychological and pedagogical training practice at the level of formation of key competencies makes certain



demands to the education sector, i.e., it highlights the terms of reference, as well as the range of issues in which the expert (Bachelor or Master) of higher education, polytechnic education, must have professional knowledge and experience. To this end, the educational process should be formed certain competence required for professional activities. Here then, a new systemic quality of personality - competence. You can talk about that competence is a structural element of competence (Shkurkin et al., 2015). Therefore, educational competence can be seen as certain given the requirements for training activities for the preparation of future specialists. Based on the analysis of research in the area of competence-based approach, we can conclude that especially important is the study of the organization and the impact of psychopedagogical conditions of formation of key competences from the experts of higher education. More poorly understood the specifics of using system-structural approach to training specialists to goal setting, selection and training content, the choice of methods, means and organizational forms of information technology training. Also, do not sufficiently explore the influence of the content of key competencies to social becoming experts on their level of professionalism and psychological portrait of the modern graduate high school.

One should distinguish between the concept of “competence” and “competency.” Scope of “competence” and “competency” overlap only partially. They are also different specifications. For example, the concept of “competence” describes a set of functional powers, rights and duties provided by law, statute or other normative act of a particular body or person. The concept of “competency” includes features such as – “appropriate,” “capacity,” that is “useful to the implementation of these powers, the execution of the assigned functions” (Branovsky, 1994; Novikov et al., 2015).

Competence is represented by us as a system made up of individual blocks (competencies), which have an internal and external communications. Therefore, the properties of the system cannot be reduced to the sum of the individual elements of it (competence), while there is some integrative quality inherent only system that determines the “competence” of the expert - economist (Brezgin, 2007.)

Study of the current state of the problem of formation of competence shown that the process of personal formation specialist of high school largely depends on the content and organization of its professional and personal training. This raises the need for continuing education, i.e., continuous development of professional competence in training, retraining and advanced training of economists, including informal and spontaneous forms of education.

## 2. LITERATURE REVIEW

Psycho-pedagogical problems of training qualified professionals competent in professional educational institutions of all levels were considered Arkhangelsky, Batysheva, Medvedev, Puchkov, Tomakov and others. Analysis of scientific works and those of other authors allows concluding that the competence approach in education is a psychological and pedagogical theory, which claims

to be the conceptual basis of policy in the field of education in our country. In Russia, the competence-based approach developed by leading scientists in the field of psychology and pedagogy for the modernization of Russian education “competency” basis. All research materials devoted to the competence approach, it is noted that it is innovative. Competence model in education correlates well with the dynamic “open” society, in which the product of the learning process, the general and vocational training to the full range of vital functions should be the competent authority. Currently, the publication of domestic authors on the competence-based approach to education is formulated its main goal - to strengthen the practical orientation of education, going beyond the limitations of “Knowledge” educational space. According to leading Russian scientists, competence approach implemented in the formation of a new type of educational standards (Zeer; Symanyuk; Tihonenko; Tomac et al.) in which the requirements for the quality of education graduates institutions of various levels are formulated in the form of a list of competences that involves the transfer of all the basic educational standards of language knowledge on language competences.

Based on the analysis of literature and experience in IN, we can conclude that it is based on the idea of the need to project these psycho-educational learning environment in which the content of the learning process would be focused on the development of professionally significant qualities of the future specialist: Competence, responsibility, mobility, flexibility, adaptability and competitiveness. Determining the level of professional training of specialists with economic education devoted to many works of leading scientists in the field of psychology and pedagogy: Abulkhanova-Slavskaya, Verbitsky, Grachev, Dolzhenkov, Zagvyazinsky, Klimov, Krajewsky, Kuzmina, Kulyutkin, Markov, Novikov, Stolyarenko, Yakunin and others. Issues of training, professional skills, qualifications, professional competence is reflected in the works of Bokarev, Vishnyakov, Gorchakov, Grishin, Beetle, Zeer, Kaloshin, Klimov, Kuzovlev, Markovoy, Mickiewicz, Pleteneva, Povarenkov, Selezneva and others.

From the analysis conducted research of leading scientists - teachers and psychologists and practices of higher vocational schools can be concluded that the problem of the organization and the impact of psycho-pedagogical conditions of formation of key competencies among specialists high school is relevant and requires further study.

## 3. MATERIALS AND METHODS

The modern system of higher education should form a socio-psychological shape modern manager at all levels. The manager must possess the following qualities:

- Personal;
- Professional;
- Organizing.

For personal qualities in addition to the traditional society approved of decency, honesty, responsibility for their relatives and subordinates must be recognition of the shortcomings of their own struggle with them, due to which the head is to cultivate

and improve relationships with subordinates. From the point of view of psychology modern manager must possess stress, flexibility, mobility, a positive attitude to the process. Or as they say psychologists strive for the perfect look of the head, engaged in personal cultivation.

It is a professional quality and competence of special administrative, technical, economic, legal, informational, psychological and pedagogical culture, receptivity to innovation technical and social, critical thinking, energy and determination in the process of making strategic and tactical objectives (Fundamentals of Management, 2015).

By organizational qualities include dedication, strength and determination, consistency in solving the problems of interest to the ability of employees, assign responsibilities according to the level of professionalism and competence of the employees, to direct all available resources to professional or industrial tasks. The development of business skills will also contribute to the study of business, the psychological literature, attending seminars and workshops that focus on developing the skills of psychological and business communication (Sperotto et al., 2015).

All these social and psychological qualities of the head are formed in the process of preparation of the expert of higher education. There are several levels of the design of the learning process, for example, in Krajewsky - three of them.

- The first level - A "model project" - records the content, principles and methods of teaching
- The second level - The "project model" - highlights the educational materials, learning the rules of a particular subject, the standard description of the material and ideal learning tools
- The third level - "Final project" - describes the ideal combination of material and training tools specific academic subject (Krajewsky, 1977).

The first level is general scientific understanding of the process of formation of key information - technical competence of the future expert, the basic concepts, principles and conditions for the implementation of this process. This level is conceptual. On a conceptual level, the process of preparing the professional future considered as a system of activities teachers and students. In accordance with our dedicated design principles were defined psychological-pedagogical conditions of formation of key information technology skills.

"Model" (from Latin - Measure, measure, sample rate) in the broadest sense - The image (including conditional or thought - image, diagram, drawing, chart, plan, map, etc.) or sample kakogo - any object or system objects ("original" model), used in certain circumstances as their "deputy" or "representative". In the most general and the most common definition of "simulation" means a material or mental simulate real existing system by creating special analogues, which are reproduced in the principles of organization and functioning of the system. Svetenko said: "First of all, between the model and the original there is a correspondence relationship, which also allows you to explore the simulated object by examining the model" (Svetenko, 1999).

With the help of simulation possible distraction from such properties of the system, which act as irrelevant in this particular regard. The model contains a simplified schematic form the most essential characteristics of the display cases. "Due to this, it allows you to comprehend the deeper real pedagogical process, move it to the construction of new models. Resorting to the simulation, the researcher has the opportunity to move from the analytical study of the individual properties, forms, and processes to a synthetic knowledge of holistic systems accounted for and controlled conditions, using the characteristics of the phenomena studied quantitative indicators" (Smetannikov, 1998).

According to Turbovich "model as an ideal representation of the dynamic process of formation of professional competence allows us to solve scientific (research) and practical problems, identify system-elements, whose role in the impact on the professional competence of specialists in economics can be understood from the analysis of the model" (Turbovich, 1970).

## 4. RESULTS AND DISCUSSION

Among the main principles of the implementation of the competence-based approach in higher education are the following:

1. The principles of humanization and humanitarisation of higher education aimed at overcoming technocratic thinking of the future specialists in economics institute.

The principle of humanization of education - one of the leading principles of its development, it means that education is directed at creating the conditions for future professionals for the manifestation and development of their individual abilities. It is designed to protect them from the risk of loss of its uniqueness, the alienation from life, the world of nature and culture, and is also aimed at meeting the needs of the individual self-realization, spiritual, social and professional development. The principle of humanization of education is carried out, for example, the increasing number of humanitarian and socio-economic disciplines in the course of training, the expansion of cultural horizons of students, fostering the skills of social interaction. It should include the development in planning, organizing and implementing the training of specialists on the basis of personal, individual, cultural, and professional-oriented approach.

This process can and should be carried out not only in the study of the humanities, but also through humanitarian focus on value-semantic content of education, which involves:

- Actualization of spiritual, moral and aesthetic potential of the studied teaching material;
- Inclusion in the historical aspects of the training content of general technical and specialized information technology knowledge;
- Emphasis on the interaction between man and nature, man and technology;
- Presentation of creative tasks, resulting in the effect of not only theoretical, but also emotional and creative thinking of students;
- Transfer of cognitive (cognitive) problems in the emotional, personally significant problems (Tomakov, 1999).

2. The principle of a holistic psycho-pedagogical development of the individual, involves the organization of educational process in the broad scope, covering not only the study program disciplines that are directly related to the learning process, but also the educational work that goes beyond learning activities (extracurricular activities, creative, scientific, and research activities, etc.). Integrity special needs due to differentiation processes taking place in science and education. It should be noted that the disciplinary and knowledge-approach does not see a coherent picture of the world, it divides into separate blocks of knowledge, discipline, which leads to the fragmentation of knowledge. Only through the integrity of the educational process is possible to achieve the formation of the whole person. According to Medvedev and Alexandrov: "The bases of integration processes in the formation of at least two: First, the world around us is a single entity, both in their 'natural' as well as technical and technological components; Secondly, the identity of the subject, master the world, and united" (Medvedev, 2003).
3. The principle of variability is to promote personal and professional development through a range of specialist individual learning path. This allows you to use a variety of programs of training and education, a variety of educational and training information technology, taking into account the experience of previous generations, and aimed at the development of their own views, attitudes and values. The implementation of this principle should enable the student to set goals, form and content of their professional activities and, at the same time, bear some responsibility for their own life choices.
4. The principle of democracy requires joint work, cooperation of educational process, active engagement of the participants without the use of overt and covert forms of aggression, while maintaining independence - all this will contribute to the achievement of positive results in constructive cooperation. The student becomes the subject of the educational process, to fully implementing it in their abilities, their personality, and the teacher becomes an organizer, coordinator of student providing its formation as a specialist. Respect for the principle of democracy ensures respect for the individual student as equal subjects of the educational process, assistance, cooperation and constructive engagement, achievement of positive openness, mutual understanding, overcome anxiety, fear, feelings of inferiority, the development of democratic methods of teaching students to uphold the principles of pedagogy of cooperation, expansion of self-government in the activities of college.
5. The principle of fundamental nature of education involves the expansion and deepening of fundamental training, while reducing the amount of general and compulsory subjects due to more rigorous selection of educational material. It should be noted that excessive fundamentalization curriculum is sometimes accompanied by a drop in students' interest in learning or difficulty of learning.
6. The principle of competence oriented education is the result of the impact of the "information revolution: On the formation of a global market, as well as the displacement of the ultimate goal of education with knowledge of competence, and competence-based approach to education, which in recent years has become a major, outlining the kind of competence-paradigm in education" (Andreev, 2005).
7. The principle of professional competence ensures professional readiness of experts in the process of learning; they develop the necessary knowledge and skills in their specialty, professional features and behaviors, the system of moral values. In the process of formation of professional competence increased readiness of graduates to the labor and social activities, the ability to operate in a defined purpose, given the situation and position. In modern economic relations particularly important to mobile professionals, providing a change of activity in the course of solving current professional challenges. Professional competence is manifested in this particular situation, which adapts and combines specialist knowledge and skills in accordance with prevailing operating conditions. Competence specialist is also reflected in his ability to perceive new information, constant updating of their professional skills, promoting new competitive ideas, finds solutions to unusual problems.
8. The principle of continuity of education. Defining the essence of lifelong education is given in the UNESCO report "Learning to be," as "a change in the way of being human, when it opens a new experience" (Pakhomov and Tuptalov, 1999). Continuing education is that in the conditions of general, vocational and higher education form a system of knowledge, skills and personal qualities that allow you to continue to educate and improve themselves, to freely navigate in a complex range of social and professional problems, to adapt successfully to changing conditions and to produce the necessary knowledge and skills to shape. To generate the key information - technological competence in such circumstances are such basic competencies as developed systems thinking; possession of methodological knowledge to not only operate on existing in-formation, but also to acquire new, to explore a variety of activities; active life and professional position; the need for professional and personal development and improvement. This principle is reflected in the presence of the concept of continuous vocational training in system of multilevel vocational training.
9. The principle of intensification should be regarded as an intensification of maximizing the effectiveness of training on the basis of improving the system of vocational education. This principle in the form of key competencies from the perspective of competence-based approach has the following symptoms:
  - Saturation of social life of students;
  - Intensification of the learning process, learning at a fairly high level of difficulty, in a tense pace, stimulating creative activities of students;
  - Raising the theoretical level of teaching material, the inclusion of a generalized knowledge about the subject, media, content, products of labor;
  - Further harmonization of the content of education in the integration of professions, providing an extension of the production profile and mobility specialist;
  - The introduction of new educational technologies, creating conditions for the development of the system and productive thinking of students;



- Preparing students to work with modern computer facilities, automated systems;
  - An optimal combination of forms and methods of training, hardware and computer performance-enhancing students and interest in learning.
10. The principle of integration of education relates to the need to provide the maximum opportunity for students to obtain an integrated vocational education, ensuring its free movement in the rapidly changing field of social production, the successful socialization. The educational potential of specialists trained in integrated specialties, enhanced by the generalization of knowledge, to reduce their volume and to reduce the workload on the students while increasing professional mobility specialists. Integration processes, especially intensively developing in the areas of public life, science and industry require a reorientation of vocational education with specialization and the division of areas of expertise in their expansion and consolidation. The integration allows:
- To ensure self-determination and self-realization specialists in different professions and related activities;
  - To create conditions for the formation of a coherent picture of the world and the world of work;
  - To develop systems thinking professional, this allows covering the phenomena in all their relationships;
  - To provide a holistic personal development (social, physical, spiritual, intellectual);
  - To establish closer ties with the practical learning activities, production of science;
  - Solve the problem of overloading students.

The main path and the direction of integration associated with the transition of the system of vocational education from highly specialized training to prepare for the specialty groups. There are several forms of integration:

- Interdisciplinary - the study of basic disciplines involved knowledge of other disciplines;
  - Coordination - the study of this course, the teacher focuses on other areas of knowledge, building it into a single logic of professional activity;
  - Combining several disciplines into one that can be carried out by the simultaneous consideration of the various aspects of a single phenomenon, and by considering this phenomenon sequentially (first one discipline, then the other). In the latter case, the course or lesson 2-3 lead teacher;
  - Formulation of interdisciplinary training and production problems and finding their solutions by bringing material from different disciplines (Tomakov, 2007).
11. The principle of regionalization of education. Regionalization, one of the strategic directions of modern politics, is largely determined by the federal structure of the Russian state (Kostin, 2005). The phenomenon of regionalism, if it is understood as the establishment of autonomous entities independent of political, economic and social relations, due to the development of civil society, rule of law and democracy. Legally, in the Russian Federation (RF) Law "On education" for the first time contains a provision on the freedom and pluralism in education, and the subjects of the Federation are

entitled to define and implement education policy that does not contradict the policy of the RF. They are administered by the development and implementation of national, regional education development programs, including international, taking into account national and regional socio-economic, environmental, cultural, demographic and other features. The development of regional education requires consideration of diversity in educational policy directions of a social nature in conjunction with the specific local experience and involves the creation of its models, programs in a single educational space. The principle of regionalization of education implies access to an even deeper level of vocational education, oriented towards the needs of the individual.

12. The principle of environmental conditionality involves the formation of key information technology competencies within cultural and educational space of educational institutions, which covers not only the educational process in the Polytechnic College, but also a broader scope that goes beyond just learning activities. This principle determines the ways of interaction of subjects of educational space of an educational institution with the environmental factors that allows predicting the nature of their influence and purposefully used in the process of training and education. The implementation of the principle of conditionality environmental involves the formation of knowledge about the possible approaches to the consideration of a variety of real-world situations and simulate such situations that students may encounter in life. It should be noted that there is no uniform environmental conditioning; different levels of media interpenetrate each other. For example, family learning environment are interrelated with foreign educational environment, and that in turn - a cultural and educational environment Polytechnic College. The cultural-educational environment can be many learning environments, however, in contrast to the educational environment, which may occur both organized and spontaneous, always learning environments specially organized.
13. The principle of tolerance implies respect for the other person, tolerance for the opinions of others, a way of thinking faith. Formation of tolerance of students is possible by isolation of the idea of corporate cooperation on different levels: The student group, the course, the faculty, the university as a whole. It is supposed to create a system of symbols, rituals, ceremonies, allowing combining and creating a corporate community in the framework of cultural and educational space. Pchelintseva believes that the education of tolerance is not just the sum of knowledge and behavioral skills, and personal position, value attitudes, so of all the conditions of the organization of the educational process should be allocated no methods or subjects of study, and the values and meanings that are actualized in a tolerant environment, and quality of relationships between teachers and students, and their own personal tolerance mature teachers (Pchelintseva, 2006). In the formation of tolerance of students plays a special role the personality of the teacher, it affects the character of the educational environment of high school at the same time, it must act equally, along with the students, a partner in the educational process.



Undoubtedly, in the process of implementation of the competence-based approach in the system during the formation of key competencies for expert can distinguish a broad range of principles. However, we proceeded from the objective reality of the degree of influence on the training and psychological preparation of the future leader of a variety of socio-cultural, psychological, psycho-pedagogical processes of the prevalence of competence paradigm of education, its adaptation to external conditions.

## 5. CONCLUSIONS

Psychological and economical aspects of the competency approach the paradigm of higher education require the development of methods aimed at teaching students the universal way of action to obtain new knowledge by means of the application of the above principles that may be necessary in solving problems unknown to him. The universality of knowledge related to its fundamental character, allowing to identify the most important laws of phenomena and processes occurring in nature and society. The current objective is currently training system proved existing paradigm of education, mental and physical capabilities of students and teachers, increasing differentiation of disciplines. But every division of the educational material should have its limits, going beyond the boundaries of which means a loss of quality. In addition, educational disciplines, as a rule, combine the knowledge from various scientific fields, allowing for intra-subjective synthesis of new knowledge, which cannot be attributed only to one particular branch of science.

Virtually all materials devoted to the justification of the competency approach, notably the desire to emphasize that it has radically-innovative. Competence approach is education that called modernity and competence model of education is related to the dynamic "open" society, in which the product of learning processes, general and pro-professional training to become responsible professionals ready to implement free, humanistic-oriented professional activity for the benefit of society.

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# **Adaptive Management Decision-Making Tool in the Field of Regulation of Interaction of Subjects Participating in a Cluster of Regional Economic System**

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## **ABSTRACT**

The study authors identify the priority use of the cluster approach to the management of enterprises in the social and economic development of territories at the expense synergies from the combination of various enterprises and improve the quality and competitiveness of the manufacturing process. The study found that the clusters in regional economic systems of the Russian Federation are innovation-oriented production and the economy, based on cutting-edge world experience in science and technology that can create products with high added value is in demand, to provide the advantages of the opportunities that it gives the globalization of the world economy. However, the detection of the leading cluster and the planning of their formation and development, in particular in goal-setting in the cluster must be considered and the boundaries and parametric characteristics scale vector strategies regional economic system.

**Keywords:** Cluster, Regional Economy, Management Decisions

**JEL Classifications:** G1, P25

## **1. INTRODUCTION**

Undoubted importance in the framework of the management of the cluster takes on the development of innovative approaches, primarily intended for the implementation of quality new level of management of the companies in the cluster at the level of the regional economic system. For the practical implementation of these cluster approaches in the study was developed adaptive tool management solutions interaction of subjects in the cluster, wearing preventive (warning) character. Under the preventive nature of the system refers to measures to prevent the development of negative trends in the financial management of spatially localized economic systems (clusters) and enable timely response to changing conditions external and internal environment, ensuring the implementation of the strategic plans of companies in the cluster at the regional economic system.

## **2. RESEARCH METHODOLOGY**

Theoretical and methodological basis of the research were works of domestic and foreign scholars in the field of fundamental problems of regional economic development, control theory presented in the scientific literature as well as works of local researchers on the development of cluster management technology. In developing problems using different methodological approaches, including a systematic approach to its subject-object-structural and functional aspects; methods and instrumentation technology research, statistical methods, the method of peer review; the method of the strengths, weaknesses, opportunities and threats-analysis; tabular and graphical data visualization techniques, the use that will ensure the validity of theoretical propositions and arguments conclusions.

The working hypothesis of the research is the assumption that the effective operation and development of economic systems

in a cluster, as the configuration of stable interdependent and reproducing economic relations based on the effect of synergetic efficiency and enhancing competitive advantages, due to the need for development and verification of the organizational and economic instruments of cluster management based on sectoral and regional specificities of the territories of justification of algorithms creation (Shkurkin et al., 2015) of enterprises cluster type.

### 3. MAIN PART

Putting the problem associated with the development of the cluster management tools, it is worth noting that it is based should be focused evaluation system integrated diagnostics activities of the enterprises in the cluster. This circumstance is due to the need for early detection of negative trends in the management of both financial and labor, production and other resources.

The proposed instrument cluster management is a holistic system of measures consisting of interrelated components, united by common theoretical, tactical and organizational and methodological objectives (Rodríguez-Garzón et al., 2015).

The main conceptual provisions of the adaptive management decision-making tools include the following:

- Diagnostics of the crisis should not be limited to the financial component, and should include an assessment of personnel, production capacity, as well as evaluation of internal and external marketing environment.
- Identification of negative trends at lower cost and losses avoided in the early stages of their discovery.
- The organization of the diagnostic system depends on the timeliness and quality of management decision-making in the field of cluster management.

The choice of priorities in the development of the cluster management tools be based on the following objectives:

- Identification of the crisis in the activities of enterprises in the cluster, in the early stages.
- Assessment of the extent and depth of the crisis.
- The development of measures to prevent the further development of the crisis.

In accordance with the tools developed by the cluster management offers a number of these areas to create an efficient system of “preventive” measures management of a cluster of regional economic system.

1. Block: Identification of diagnostic operation and detail.
2. Unit: Development of an algorithm implementing the system diagnostics of the crisis and the system of preventive measures to prevent them.
3. Unit: The development of the financial program of cluster development in the light of the diagnosis.

We characterize the content of each of the above blocks that make up the cluster model of strategic management (Rădulescu et al., 2015). In our view, the direction of the diagnosis should contain an assessment not only to the financial component of the activities of enterprises in the cluster. As noted earlier, there is a dependence on

the financial stability of the qualifications of administrative staff, so-called “flow of knowledge” within the cluster; availability of modern production technology and a low degree of deterioration of equipment; the availability of the system of budgeting and so on.

Summarizing the foregoing comparison, in the general direction of a comprehensive diagnosis of the functioning of the cluster can be represented by the scheme shown in Figure 1. The next block - the development of an algorithm implementing the system of diagnosis of the crisis and the system of preventive measures to prevent them (Figure 2).

In our opinion, such an algorithm for implementing the system of diagnosis of the crisis and the system of preventive measures to prevent them in the cluster might look like block shown in Figure 2.

Of particular importance in the strategic management of the enterprises belonging to the cluster gets a clear assignment of tasks and division of powers between the employees. This eliminates the misunderstanding that may arise between the CFO and leading specialists: Chief accountant, head of planning and economic department, head of the finance department and the head of analytical department of the companies belonging to the cluster (Moshabaki et al., 2013). This is especially true of the chief accountant, as the accounting of the enterprise should be mandatory part of the financial services, and the chief accountant must be in double subordination: Director General (in accordance with applicable law) and Chief Financial Officer on all operational matters. Only under this condition management in real time the activity of the enterprises in the cluster to be effective, otherwise the analytical work will be meaningless.

Developing tools cluster management thesis research highlighted that the interaction of structural (economic and financial) business units within the cluster might look scheme, reflected in Figure 3.

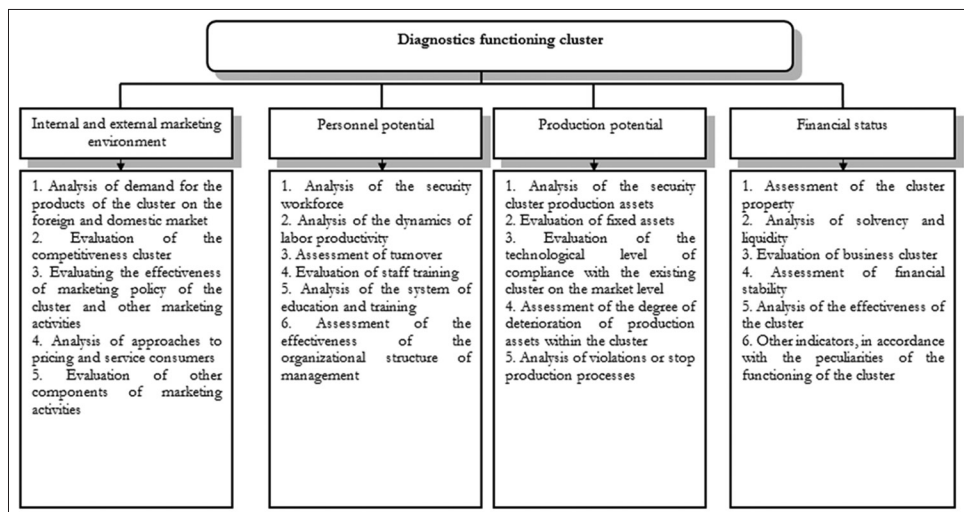
A detailed description of the interaction of structural divisions of financial services in the management of enterprise cluster in the structure of the regional economic system is presented in Table 1.

In the first step should be to identify the persons responsible for the monitoring, to develop a position on each of the services, and make changes to job descriptions.

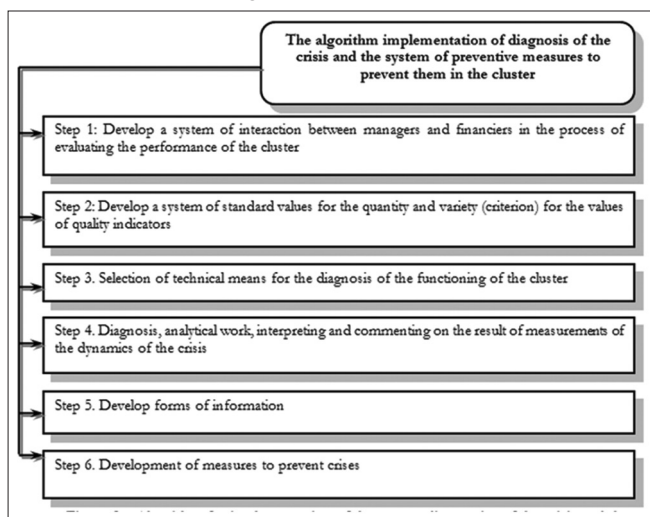
In addition, you should determine the frequency of the diagnosis in all areas of the company, part of the cluster. In our opinion, it is appropriate to conduct diagnostics on a quarterly basis in the following areas: Marketing activities, production capacity, human resources. In the field of finance diagnostics should be performed monthly (Volodin, 2006).

Describing the content of the second stage, it may be noted that for each of the areas to be developed criteria by which to infer the presence or occurrence of problem areas such in the near future. So, for those of financial performance may be negative trends in the dynamics at the stage when the critical values of the indicators have not yet been achieved.

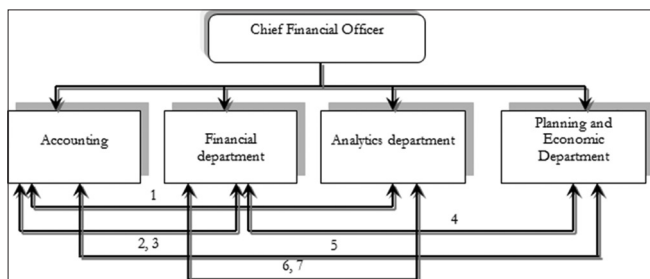
**Figure 1:** Areas of complex diagnostics functioning cluster



**Figure 2:** Algorithm for implementation of the system diagnostics of the crisis and the system of preventive measures to prevent them in the agribusiness cluster



**Figure 3:** Scheme of interaction of divisions of financial services companies in the cluster



(1) The organization of the financial analysis of the enterprise cluster as a whole, and financial stability; (2) management of accounts receivable and accounts payable; (3) cash management; (4) financial planning and budgeting; (5) cost management; (6) financial risk management; (7) investment management and development of dividend policy

Equally important in the analysis of the technical base of the company is included in the cluster. This is the choice of

equipment, such as computer hardware, software, creating a unified information network for users. This problem should be solved on the third stage of implementation of the system diagnostics.

It is also advisable to develop forms of information (in our case - the fourth stage). Information should be provided in a convenient form that employees of other divisions could have an idea of the situation in this area of functioning of the enterprise, part of the cluster.

At the fifth - the final stage of each company, based on the specifics of its operation, is developing a system of measures for each of the areas.

The next block is to develop a financial program of cluster development. Financial planning should be based on operational information that companies belonging to the cluster, obtained by diagnosing its functioning and proposed measures to prevent negative trends. Development programs can be written in the form of the circuit shown in Figure 4.

From the author’s point of view, for the development stages of the financial program cluster, you must choose the two extreme positions - the lack of financial constraints and their availability. In practice, any company included in the cluster, it is difficult to imagine a situation when the company has no financial difficulties. Sooner or later a situation arises that requires close attention. Only with constant monitoring of the operation of enterprises in the cluster, and strict regulation of control measures for timely detection of adverse trends and immediate response to their presence. The earlier the problem is identified and operational decision-making, the more likely cluster to survive in a market economy, characterized by high level of competition.

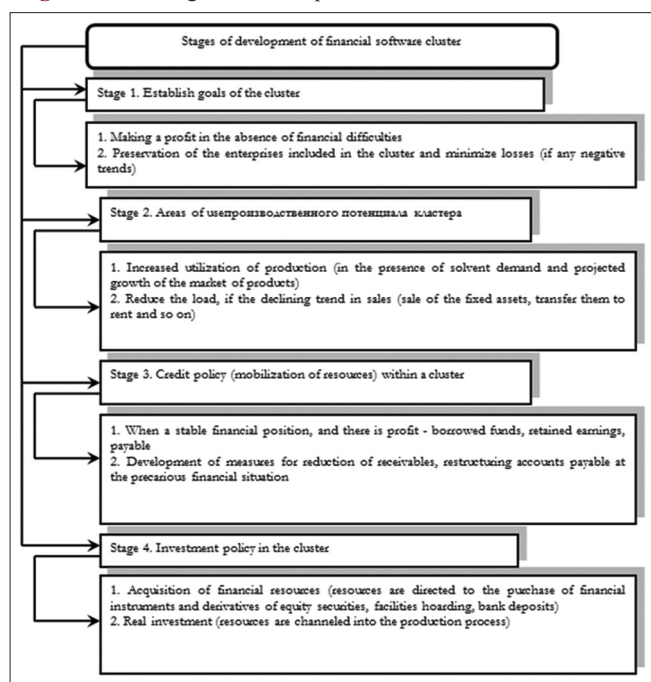
Given the instability of the environment in which the cluster operates at the regional level, particular attention, in our view, should be given to the organization of preventive (preventive) monitoring the state of financial resources.



**Table 1: The interaction of structural units in the management of companies in the cluster**

Name of business processes within the cluster	Executive in charge	Who agrees	Statement	Period of execution
Organization of the financial analysis of the company	Head of planning and economic department or the chief economist	Chief accountant	Chief financial officer	At the end of each week
Receivables management (development of measures to reduce)	Specialists of financial department	Head of financial department	Chief financial officer	Monthly
Receivables Management (analysis of the value, quality and dynamics)	An employee of the analytical department	Chief accountant	Chief financial officer	At the end of each week
Manage accounts payable (development of measures to reduce)	Specialists of financial department	Head of financial department	Chief financial officer	Monthly
Manage accounts payable (analysis of the value, quality and dynamics)	An employee of the analytical department	Chief accountant	Chief financial officer	At the end of each week
Cash management (analysis of outflow, inflow, and others)	An employee of the analytical department	Chief accountant	Chief financial officer	At the end of each week
Cash management (decision-making in the areas of the use of funds)	Specialists of financial department	Head of financial department	Chief financial officer	At the end of each week
Decision-making in the field of financial planning	Specialists of economic planning, finance and accounting department	Head of planning and economic department	Chief financial officer	Depending on the timing of the planning
Cost management (development of regulatory calculations, the development of measures to optimize the amount of expenses, etc.)	Specialists of planning and economic department	Chief accountant	Chief financial officer	Monthly
Financial risk management	Specialists of financial department	Head of financial department	Chief financial officer	Quarterly
Investment management and development of dividend policy	Specialists of financial department	Head of financial department	Chief financial officer	Yearly

**Figure 4: The stages of development of financial software cluster**



According to leading experts in the field of financial management, financial control is an effective coordination system to ensure the relationship between the formation of the knowledge base, financial analysis and financial planning, providing control of the financial activities and financial transactions.

Hasanov follows determines the subject and object of financial control “subject to financial control in enterprises are the processes

of formation and use of financial resources, and subject to control - controls the activity of which is directly linked to these processes” (Hasanov, 2003).

Typically, as the priority tasks of financial control experts in the field of financial management stands to ensure a high efficiency of the enterprise and to maintain a normal level of financial stability.

Kuzaeva identifies the following local problems of financial control:

- Ensuring a normal level of solvency and liquidity
- Creation of a system of indicators of financial information
- Control of key financial indicators
- Monitoring of the cash flow
- Tax control
- Control of capital investments (Kuzaeva, 2006).

According to Steven, the main areas of financial control are transactions with cash; management decisions related to investment activities; state of accounts payable; state of accounts receivable; costs of production and circulation (Hasanov, 2003; Steven, 2008).

Given the need to implement the objective of financial control in the strategic management of financial resources of the cluster, you can add an area such as financial planning and budgeting.

It should be noted that under the stewardship role of the financial control continues unabated. Any decision related to the management of financial resources, must be assessed, including from the standpoint of its impact on the financial position of companies belonging to the cluster, their financial stability. In this case also assumes the use of the financial control.

We distinguish, in a study that the financial control function in the strategic management of the cluster might look like:

- Monitoring of the progress of administrative decisions in the field of financial management companies within the cluster.
- Measurement deviations of actual financial performance of the planned;
- Diagnosis of abnormalities in the financial consequences of the development of enterprises in the cluster.
- The development of management solutions to remedy the situation to normalize the financial condition of the companies belonging to the cluster.
- Making (if necessary) adjustments to certain goals and objectives, as well as financial indicators related to the changes in the internal and external business environment.

There is no doubt that the financial control within the management of the cluster must be based on certain principles. These include:

1. The focus of the system of financial control in the implementation of the financial strategy of the companies belonging to the cluster.

Each of the financial transactions carried out should be evaluated in terms of impact on the financial stability to its implementation, i.e., Financial control must be strategic.

Financial control of all current financial transactions makes little sense, since it will be a simple statement of the facts when making decisions in the field of financial management will be carried out after the event.

2. Timeliness of financial control.

Financial control should wear primarily precautionary (preventive) character, i.e., allows you to fix the financial position of the company to the point where the current abnormalities can lead to serious consequences.

3. The adequacy of the financial control features of the functioning of enterprises in the cluster.

When building a system of financial control should take into account industry specific cluster, its size and the conditions of its operation. In addition, the current selection is a certain financial ratios and financial ratios with which it would be possible to assess the financial position of the company, part of the cluster, and its financial stability and which would take into account the specifics of its activities.

4. Flexibility of construction of system of financial control in the cluster.

The system of financial control must respond and adapt to the changing internal and external factors. For example, to new types and forms of investment, operational and financial performance, new financial instruments, new methods and technologies in financial transactions.

5. Cost-effective system of financial control.

The financial effect of the introduction of the system of financial control in the strategic management of the cluster must exceed the costs of its organization.

In our opinion, the system of financial control in the strategic management of the cluster must be built as follows:

1. Definition of the object of financial control - in this case the value perspective of financial stability of enterprises in the cluster.
2. Formation of controlled performance. As already mentioned, the choice of the system parameters must be tailored to the

specifics of operation of the cluster. This capability is the selection of priority indicators and the indicators of the second level in order to clarify the value of forward-looking financial stability of enterprises in the cluster.

3. Development of the quantitative standards for the system controlled parameters. Following the development of appropriate indicators is controlled to set limits performance, again taking into account the peculiarities of the cluster.
4. Determination of the control periods, it is advisable to set the reference periods of the same period of financial planning and budgeting. We can distinguish the following periods: Weekly report; monthly report; quarterly and annual reports.
5. Establish the size of the actual deviations from targets. You can select the following deviations:
  - Positive deviation (financial transactions were carried out with less financial risk and largely contributed to the strengthening of financial stability).
  - Tolerance of negative (financial stability of enterprises in the cluster below the planned level, but remain within acceptable limits - there is no threat of bankruptcy);
  - Critical negative deviation (enterprises belonging to the cluster threaten financial problems until its bankruptcy).
6. Identification of the causes of deviations. For each deviation, regardless of its type (positive or negative) must be set causes: In the first case (positive deviation) - to secure the effect obtained in the second - to prevent recurrence in the future.
7. Formation algorithm of actions to address deviations. You can select the following fundamental system of actions of managers, which is carried out in the framework of the three algorithms.
  - “Do nothing” - this algorithm is appropriate to apply in the case where the deviation is positive or is negative, but the size of the deviation is far from critical.
  - “Elimination of consequences” - the algorithm suggests actions to address the effects that have arisen as a result of significant negative deviations from the planned targets. Events are developed depending on the reasons which caused a high amount of negative deviations.
  - “Change of routine or standard indicators” - in some cases, the reasons for the deviations do not allow change the situation by eliminating the consequences. For example, the rate of growth of prices for raw materials was higher than the projected level. In this case the variant, at which the correction targets. In some extreme cases, it can be taken crucial decisions, such as the rejection of the implementation of operational, financial and investment companies, until the closure of certain production facilities, if it is economically justified.

On the basis of studies to determine the place of preventive control within the model of cluster management. Any economic process can be represented as a managerial cycle. Start cycle - setting goals and objectives, and the end of the cycle - their implementation. After that, put a new goal and a new cycle begins. Formula management process is as follows: “The objective - the result - a new goal.”

Implementation is carried out by managerial cycle of strategic and tactical planning, which is embodied in the budgets of the cluster.

The budget is a financial instrument created to implement proposed actions. It forecast the future financial operations.

Budget, first - a development plan for the cluster in terms of money, and secondly - it means and sources of funding to achieve the strategic and operational objectives.

In our view, the feasibility of organizing preventive controls in the model cluster management within the budgeting system of enterprises in the cluster.

Here are the basic principles of the process of budget planning, formulated by Tilova:

1. The ratio of the financial terms (“golden banking rule”) - the receipt and use of funds should take place on time. Capital investments for the long term it is advisable to be financed by long-term borrowings.
2. To ensure solvency and financial stability - financial planning must ensure the solvency of the company and its financial stability in all phases of operations.
3. The optimal capital investment - for capital investments necessary to choose the cheapest means of financing (for example, financial leasing). Attract bank loans is beneficial only if the action is provided by the effect of financial leverage.
4. The balance of risks - the most risky long-term investments it is advisable to fund from its own sources.
5. Compliance with the conditions and needs of the market - for the enterprise must take into account the market situation, the actual demand for the products (services), and possible reaction to changes in the market.
6. The marginal profitability - it is advisable to choose the objects and investment areas that provide maximum (limit) profitability.

As one of the key principles is called the principle of solvency and financial stability. Inclusion in the budgeting system of preventive control over the financial stability of the enterprises included in the cluster will facilitate the implementation of this principle (Kobersy et al., 2015).

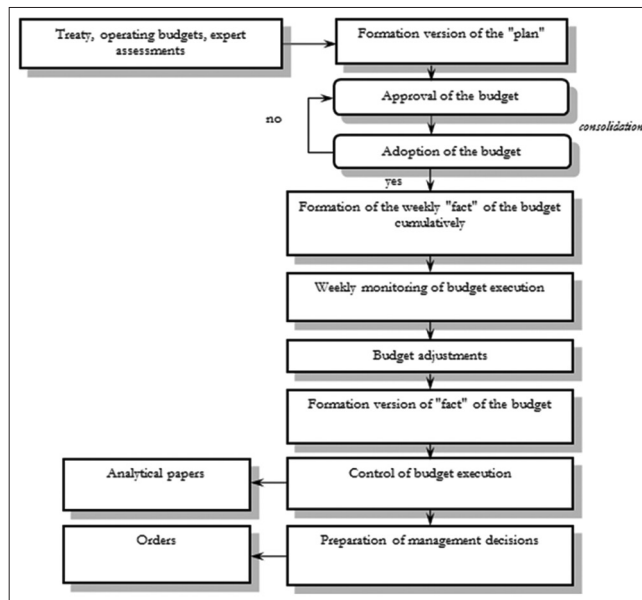
In the most general form of the process of drawing up any budget is as follows:

- Training version of the “plan” of the budget
- Approval of the proposed budget
- Approval of the proposed version of the budget
- Formation version of the “fact” of the budget
- Budgetary control
- The adjustment budget.

As can be seen from the above position, the control function is shown only from the standpoint of the effectiveness of implementation of the budget. In this case, the circuit budgeting process within a cluster, in the most general form is shown in Figure 5.

Topical is refinement of the budgeting process in order to implement the control function from the standpoint of assessing

**Figure 5:** Stages of the budget process for the formation and control of the budget execution in the implementation of models of cluster management



the financial stability and solvency of the companies belonging to the cluster.

The budgeting process is advantageously carried out three types of monitoring financial stability of the enterprises in the cluster:

1. Preliminary review of financial stability is to evaluate the financial stability of the company at the stage of approval of budgets, performance targets and compliance with standard values.
2. Monitoring is to verify the correspondence between the decisions are made and approved plans.
3. Follow-up of financial stability of the company is to verify the conformity of the actual and plan data.

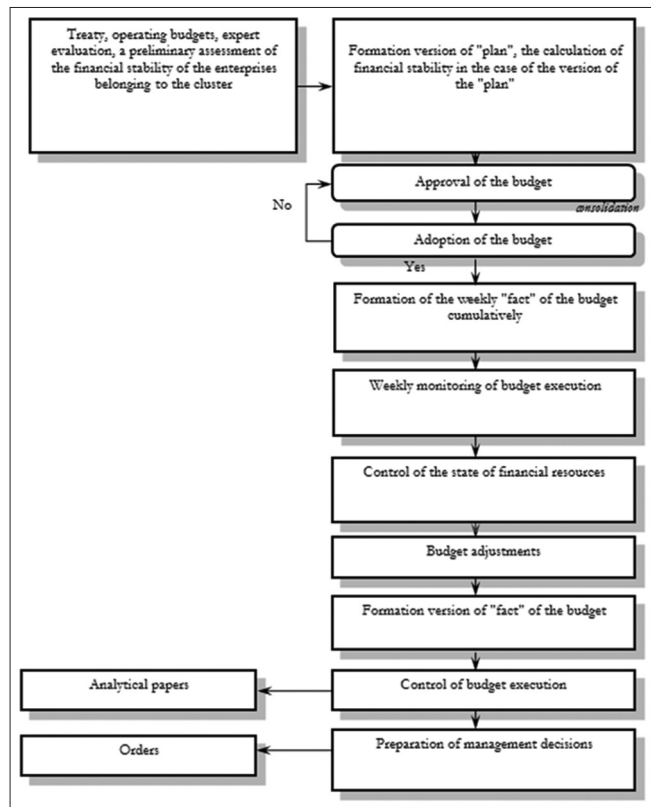
Therefore, we recommend the use of precautionary (preventive) control within the budgeting system in the implementation of models of cluster management. In the process of implementation of the budget will be implemented as the current and subsequent checks (Di Pietro, 2015).

In this case, the stage of the budget process within the framework of the formation of the forecast balance of the enterprises included in the cluster would look as follows: Preliminary review of financial stability of enterprises; training version of the “plan” of the budget; monitors the financial stability of enterprises in the case of the version of the “plan;” approval of the proposed budget; approval of the proposed version of the budget; the formation of the version of “fact” of the budget; budgetary control; subsequent control of the financial stability of the enterprises; adjustment of the budget.

In view of the tool in the implementation of cluster management scheme of the budget process will be as follows (Figure 6).

The key elements of the system of preventive monitoring of financial stability within the cluster budgeting system will be:

**Figure 6:** Stages of the budget process for the formation and control of implementation of the budget taking into account the monitoring of financial stability of enterprises in the cluster



- Preventive control facilities - forecast balance of enterprises in the cluster.
- Control subjects - heads of departments and economic and financial services companies within the cluster.
- Methods of preventive control budgets - the implementation of procedures to determine the deviation of actual financial soundness indicators of the plan.

In this case, the system of preventive control is not accidental implemented within the formation of the forecast balance, in fact balance data are the basis for the information to assess the financial stability of the cluster.

Thus, the consistent implementation of tools cluster management, in the author's view, will not only carry out preventive monitoring of the activities of each entity in the cluster, but also to forecast its activities on a long term basis, monitor the implementation of the budget within the cluster, to carry out activities aimed at minimizing financial risks associated with the peculiarities of the industry development of various businesses.

#### 4. CONCLUSION

On the basis of analysis of the issues discussed in this section of the study, the following conclusions:

1. The preventive control of the cluster means a system of measures that prevent the development of negative tendencies

in the field of financial management and allow timely response to the changing conditions of the external and internal environment, thus ensuring the implementation of the strategic plans of companies in the cluster.

2. The proposed instrument cluster management is a holistic system of measures consisting of interrelated components, united by common theoretical, tactical and organizational and methodological objectives.
3. In accordance with the developed tool offers a number of directions to create an efficient system of "preventive" measures to manage the activities of the cluster, combined in blocks. The first block - definition of areas of operation and diagnostics of detail; second unit - the development of diagnostic algorithm implementation of the crisis and the system of preventive measures to prevent them; the third block - the development of the financial program of cluster development in the light of the diagnosis.
4. Only with continuous monitoring of the operation of enterprises in the cluster, and strict regulation of control measures for timely detection of adverse trends and immediate response to their presence. The earlier the problem is identified and operational decision-making, the more likely cluster to survive in a market economy, characterized by high level of competition.
5. Implementation of the managerial cycle is carried out through strategic and tactical planning, which is embodied in the budgets of the cluster.
6. The system of preventive control is not accidental implemented within the formation of the forecast balance, in fact balance data are the basis for the information to assess the financial stability of the cluster.
7. Consistent implementation of cluster management tools will not only carry out preventive monitoring of the activities of each entity in the cluster, but also to forecast its activities in the long term, the budget execution in the cluster, to carry out activities aimed at minimizing financial risks associated with the peculiarities industry development of various businesses.

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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 uncoded 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 Mahloup 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 uncoded 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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## **Innovation and Integrated Structures of the Innovations in Modern Russia**

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### **ABSTRACT**

Integration processes contribute to the unification of educational, scientific and innovative capabilities of the leading educational centers in Russia. Formed a large market of educational services, increasing the scale of research and innovation work. Note that due to the association of universities, as well as through the effective use of various resources of universities combined probabilistic resulting indicators of the quality of educational services and innovations. Areas of high school with educational institutions at all levels requires a vertical type of links, it will give the opportunity to receive advanced education and research innovation of the corporation. On the scale of the region's integration institutions and bodies of vocational education determines the need to consolidate efforts for the employment of graduates, professional development and retraining, etc. The process of combining, merging dictate the need for a radical transformation of the education system to meet the requirements of the emerging knowledge economy, bringing adaptability and flexibility to adequately respond to current and future needs of socio-economic development of Russia and the world.

**Keywords:** Knowledge-based Economy, Regional Economics, Economics of Education

**JEL Classifications:** A2, D8, P25

### **1. INTRODUCTION**

In the XXI century innovative activity - The problem is more fundamental and priority than, for example, market reforms, since the latter also falls under the definition of innovation.

Society can progress only to the extent that it produces innovation. Innovation is the basis of socio-economic systems, determines the rate and extent of growth in the past, structural changes in them. The course and direction of development of socio-economic systems is determined by the introduction of these new tools and methods of human activity, allowing to overcome the limitations of available resources and in turn give rise to new needs, goals, values and forms of their economic realization. However, the inherent property of the irreversibility of the evolutionary process does not mean absolute translational motion to the heights of progress.

The contradictory combination of progressive and regressive tendencies inherent trait of any development in general, and social and economic - in particular.

The contradictory trends of social and economic development is manifested through different degree of innovation activity of economic systems. Of particular importance acquires the relationship today. Innovation is not just organically inherent in a modern economy, they become a way of existence and its specific results (Shkurkin et al., 2015). Common problems associated with efficiency, economic growth, increasing the welfare of the population, are solved only to the extent that it creates the result of cash resources. In turn, give rise to new needs, goals, values and forms of realization of their economic, so it seems theoretically meaningful and relevant analysis of the underlying mechanisms and sources of innovation. Scientific evaluation of the causes of



depression relative innovation motivations of economic actors will allow to correctly identify ways of increasing the effectiveness of management of innovative processes in the different economic levels (Babakhanova, 2015).

## 2. RESEARCH METHODOLOGY

Theoretical and methodological basis of the research work constitute the fundamental domestic and foreign scholars on the theory of innovation in social and economic systems management (Kobersy et al., 2015). The study was conducted by applying the principles of the system approach, methods of economic, logic and a set of specialized software.

Information and empirical basis of the study was formed on the basis of official data of federal and regional bodies of the statistical service of the Russian Federation, Internet resources, copyright research, tabular, graphical visualization techniques of statistical information and resources.

## 3. MAIN PART

Investigation of this problem it seems appropriate to start with the characteristics of the concept of “innovation,” as in the current literature is ambiguous it is revealed that the difference is largely explained by researchers approaches this complex and multifaceted issue. For example, Dihtl and Hershgen argue that under the “Innovation meant the introduction of new products, which should distinguish a genuinely innovative products and new only in the production program of the entrepreneur. Genuine innovations require new decision consumers’ problems ... or satisfy the need for which was not there before the goods...” (Dihtl and Hershgen, 1999).

Quite common is the definition of innovation as “the process of introducing new products, services and manufacturing processes” (Didenko, 1990). In this respect, the judgment is characteristic B. Kingston that innovation – “the process of converting a new idea or invention into socially significant products that have fundamentally new technical and economic parameters or the transformation of ideas into concrete objects” (Ivanov et al., 1990).

The main drawback of this approach to the interpretation of the innovation lies in the fact that they are associated with the process of development of new products or technology, not taking into account the changes in the socio-economic sphere. Meanwhile, their value is constantly increasing due to the fact that the very basis of technical improvements in production is largely determined by the quality of the organization and management of the industrial enterprise.

In modern literature is very common is the ambiguous nature of innovation. For example, according to Gvishiani and Gromeka, the innovation, on the one hand, “a process of the invention to adjust the technical stage of practical use when it starts to give an economic effect”, on the other hand, - “final result of this process, i.e. the invention is brought to the stage of commercial use of the

product or product that results from the process of innovation in the first meaning of the term” (Gvishiani and Gromeka, 1990).

A similar judgment saying Blyakhman that considers innovation (technical, technological, organizational, social and economic) as a “purposeful change, deliberately introduced into the process of reproduction to better meet existing or formation of a new social need. By innovation we mean the process of creation, development, distribution, and the result - new products, technologies, forms and methods of organization of production, labor and management, bringing economic and social effects” (Blyakhman, 1993).

By definition, Lapin, innovation and innovation - is a “complex process of creation, dissemination and use of new practical tools (innovations) to the new (or better meet the already known) social need; at the same time it is a process of innovation coupled with the changes in the social and the real sector, which performed its life cycle” (Lapin, 1995).

As a result, ambiguity in the interpretation of the term “innovation” leads to a shift of concepts, which complicates the process of goal-setting. This, in turn, entails a different approach to understanding the effectiveness of innovation. Therefore, in our opinion, should be a clear distinction between the concepts.

Note that many researchers believe that innovation should be seen as a change of state of an object (system). For the first time such an approach to the definition of innovation suggested Schumpeter, who introduced the concept of a scientific revolution, “the implementation of 11 new combinations”. According to Schumpeter, new combinations are changes in production and market (Schumpeter, 1982).

Prigogine defines innovation as “... a deliberate changes made in the implementation of environment (organization, population, society, etc.) are relatively stable elements of the new... innovation process, i.e., some transition from one state to another” (Prigogine, 1989).

In our view, determining the content of innovation, we should proceed from the fact that, on the one hand, its purpose is to meet the public demand, on the other hand, it is a means, the use of which makes it possible to obtain a certain economic impact.

In this regard, it can be argued that innovation - An innovation (product, service, and technology) embedded in industrial activities in order to obtain certain economic benefits on the basis of meeting certain social needs.

This successful combination of the best solutions of consumer problems with the ability to produce a specific effect pioneered the use of ideas, inventions, solutions allows us to speak about the appearance of innovation.

To determine the role of innovation in the enterprise must consider the objective necessity of their implementation:

- Firstly, the creation and use of innovations, on the one hand, due to the competitive struggle of manufacturers, on the other hand, is a decisive factor in competitiveness;

- Secondly, the pioneers of innovation have the opportunity to obtain additional income as a result of a temporary monopoly on the market;
- Third, radical innovations are virtually single means relying on a small industrial company that can turn into major corporations.

In our view, it is worth noting the importance of the impact of different reasons indicated above on the innovative activity of industrial enterprises. Competition is a necessary and indispensable cause of innovation due to the fact that non-competitive manufacturer will not survive in the market environment, while reasons related to profit and an increase in the scale of production, stimulate the industry to achieve a certain position in the market.

Innovation is the result of the innovation process, under which, in our opinion, it is understood the set of work processes for the development, implementation and practice of the invention (plans, ideas) in industrial activities.

At the same time, in our opinion, it is appropriate to consider innovative activity as the organization of work on the stages of the innovation process in the implementation of various innovations within a particular industrial enterprise.

The innovation process consists of the unequal terms of content and results steps, each of which has a degree of independence and autonomy, the existence of organizational and economic features associated with forecasting, planning, fantasizing, incentives, etc. Therefore, for the effective implementation of the innovation process must be unity of integration of its constituent stages as dysfunction of at least one of them calls into question the effectiveness of the entire innovation process.

In the literature, the structuring of the innovation process is carried out in different ways. According to Dagaev (1999), the innovation process can be represented as a chain of innovation, reflecting the linear sequence of steps, as the generation of ideas, testing the technical feasibility and needs analysis of the market, creating a prototype, integrated testing, improving the technical characteristics, probing the market, organization of large-scale production and marketing of large-scale, market expansion. Similar approaches to the determination of the structure of the innovation process and are in the foreign literature. Thus, according to data cited by Ivanov et al. (1990) American authors, with varying degrees of detail adhere schemes: Research - development - production - marketing - sales. Or more detailed version: Basic research - applied research - development - market research - design - market planning - Pilot production - market testing - commercial production. Santo highlights such structural elements of the innovation process, “basic research, applied research, pilot production and development, preparation for production, production, marketing” (Santo, 1990).

Dihtl and Hershgen (1999) referred to the following stages of the innovation process: The search for ideas, selection of ideas, analysis, development of product concepts and prototypes, testing, access to the market. Slovak economists Vodachek and

Vodachkova dismember the innovation process into phases: The “science - research - development - production – consumption” (Vodachek and Vodachkova, 1989), which are then divided into stages.

From the above definition, it follows that, despite some differences in the name of the individual stages, as well as their total number, there are no fundamental differences in the definition of the structure of the innovation process. The level of detail and the availability of a particular stage in the structure of the innovation process due consideration of the level and purpose of the investigation.

Based on the fact that modern industrial production came to a level of development where further increase its effectiveness is impossible without the use of scientific knowledge seems legitimate inclusion in the initial stages of the innovation process of the papers related to the research. Accordingly, the final stage of the innovation process is due to produce a result - innovation, i.e., it ends with the introduction of changes in the activity of the industrial enterprise. In general, the structure of the innovation process can be represented as follows: Basic research, applied research, experimental development, innovation (implementation in production), to enter the market.

The most important feature of innovation is the innovation cycle, unambiguous definition of literature which has not yet been worked out.

According to some authors, the innovation cycle is seen as “an interconnected set of works from the search for new ideas and concepts of natural science and technical capabilities to their applied research, engineering design, pilot testing, implementation, development and practical application of scientific and technological solutions” (Dobrov et al., 1994). In the view of Blyakhman (1993), an innovative series of innovations - is the process of its creation, implementation, use and obsolescence. Baryutin believes that it is advisable to introduce the innovation cycle as a sequence of four phases:

1. The emergence of innovation;
2. The introduction into the sphere of operation;
3. Distribution;
4. Improving (Baryutin, 1990).

The innovation cycle Yakovets considering as part of scientific and technological cycle, which implies “between the birth of new scientific and technical ideas (theories, scientific field) and its materialization in a new generation, or the direction of technology and the time when this technique, having exhausted its potential, is replaced in production and consumption of new, more effective, which realizes the idea of a higher level” (Yakovets, 1993).

Indeed, innovation is based on the satisfaction of specific social needs, but the replacement of one another innovation is not due to the exhaustion of the possibilities of its improvement, as indicated above. This process is deterministic especially the emergence of the possibility of more effectively solve the problem of which was sent prior innovation. And, of course, any innovation is based

on a specific scientific knowledge, principle, idea, etc., but the practical use (this applies primarily industrial use) occurs in the presence of the conditions of economic benefits in the short or long period of time.

So, the basic approaches to the interpretation of the term “innovation”, comments and develop their own approach to the understanding of the term “innovation”. Further research logic dictates offer “generator” of innovations to identify the participants, stakeholders, and the area of their interaction.

In our study, a priority role for the partnership of government and business, which involves the effective cooperation, to this end, it is advisable to the formation of scientific and educational innovation Corporation (Neuquen) as the institutional center to stimulate innovations on the basis of horizontal and vertical relations of the university - with the bodies and agencies of the VPO different level. Note that the horizontal links are assumed between institutions of higher education, such structures already exist in the territory of the Russian Federation. For example, “Southern Federal University,” which included “Rostov State University,” “Rostov State Academy of Architecture and Art,” “Rostov State Pedagogical University,” “Institute of Technology” in the city of Taganrog and “Siberian Federal University,” which consisted of “Krasnoyarsk State University,” “Krasnoyarsk State Technical University,” “Krasnoyarsk State Academy of Architecture and Construction,” “State University of Nonferrous Metals and Gold” (Sfu-kras.ru, 2015).

Integration processes contribute to the unification of educational, scientific and innovative capabilities of the leading educational centers in Southern and Siberian Federal Districts, which formed a large market innovation is increasing the scale of research and innovation work. Note that due to the association of universities in the functional structure of each, as well as through the effective use of various resources combined universities resulting probabilistic indicators to improve the quality of educational services. Areas of high school with educational institutions at all levels requires a vertical type of links, it will give the opportunity to receive advanced education and research innovation Corporation (Science and Education Innovation Corporation [SEIC]).

On the scale of the region’s integration institutions and bodies of vocational education determines the need to consolidate efforts for the employment of graduates, professional development and retraining, etc. With the formation of SEIC in the region develops unified educational field, interdepartmental barriers are eliminated, there will be a joint activity of universities and vocational training, taking into account different levels of intra-regional needs. Indicate the direction of responsible international orientation by combining education systems for the effective functioning of the scientific and educational innovation corporations and institutions of vocational education, represented by the internal structure of SEIC within the VPO is the fullest help to stimulate innovations on the level of the regional economic system.

Today, every university seeks to define the dynamics of development in parallel with the development of the regional

industry and fit in difficult conditions of the local economy. We emphasize that the best university is defined as a structure, afford to choose the right direction towards the execution of orders in the production of high-quality educational services, spurring domestic applied research and development of innovative activity choices necessary for regional development.

The process of combining, merging dictate the need for a radical transformation of the education system to meet the requirements of the emerging knowledge economy, bringing adaptability and flexibility to adequately respond to current and future needs of socio-economic development of Russia and the world.

It is advisable to emphasize that education and science are considered by us as a single multi-purpose complex, a number of important functions: Providing industries with qualified personnel, development of new technologies, research, etc.; and universities and high-tech sector of Russian science - as strategic partners interested in stimulating innovations of educational services and to improve the quality of education and research.

The stated aim can be achieved by the voluntary association of human, intellectual, material, technical, informational and administrative resources on the basis of the association (or treaty) association of universities, academic institutions, government research centers, technology parks, innovation and technology centers and innovative companies.

Integrated structure in the form of SEIC have the potential inherent in leading institutional centers to stimulate innovations of educational services. In view of this is determined by the presence of high training requirements demanded in today’s globalized economic processes, accelerated development of scientific and technological revolution and the internationalization of economic activities. Another characteristic of the scientific-educational innovative corporate incentives as centers of innovation is the flexible adaptation to work in high-commercialization of the social sphere. SEIC able to offer to the market and applied the classical forms of education, to establish the form of continuing education, synthesizing pre-university, university and post-graduate training types. The scientific potential of SEIC able both to produce innovative products in the form of their own research and development to ensure production of new goods and services and to assist economic actors in their production by implementing information and analytical support, and software professionals of varying skill levels. Scientific and educational innovation corporations able to carry out more effective training, minimizing transaction costs society and to actively influence the formation of regional educational policies.

The objects of the internal integration activities of science through stimulation of innovation:

- New organizational and economic models of chairs and joint structures academic profile;
- Joint scientific-educational and innovation centers;
- A program of basic and applied research for the development of priority scientific and educational areas of regional significance;



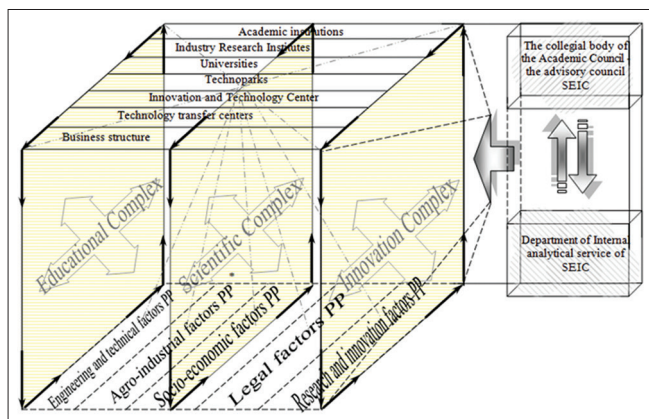
- Mechanisms for the establishment and operation of centers for collective use unique equipment;
- The right to object jointly created intellectual property, commercialization mechanisms within the boundaries of the region;
- Plans for the preparation of doctoral and graduate students in scientific and educational fields, as well as programs targeted training of specialists for innovative firms in the interests of SEIC;
- Collective bodies SEIC and joint structures.

Currently, integrated structure of academic science and higher education established in more than 60 regions of Russia, including Krasnodar-based Kuban State University. In this example, we are talking about training, research and innovation complex, which includes 154 joint educational and research center (University of California) and 116 centers of collective use of scientific equipment (MSC). The educational, scientific and innovative complex of Kuban State University to develop innovative projects carried out in areas such as biotechnology, new types of crystals for lasers, membrane technology, the search for oil and gas, new fonts, and others. It should be noted that the activities of scientific and educational innovation corporation subject - functional, broader institutional reforms within the scientific and technical spheres and determined, in particular, the provision of quality educational services for the nanotechnology industry is distinguished by a corporate-integrated structure of SEIC, as a consequence - to provide the basic elements of the national innovation system highly professional staff, for example in the field of nanotechnology, nano-scale physics and nano-materials, as well as innovative management, based on the needs of industrial enterprises.

The structure of the scientific and educational innovation as a leading corporate center to stimulate institutional innovations can be schematically represented as a cube (Figure 1), the upper base of which is a structured presentation of departmental infrastructure SEIC apex of which determines the human, scientific and technological policy, the center of innovation activity SEIC are academic institutions. The base model of the regional scientific-educational innovative corporation: The engineering, socio-economic, agro-industrial, legal, scientific and innovative

**Figure 1:** Model of regional research and educational innovation as a leading corporate center to stimulate institutional innovations. Notes:

Regional development



factors of regional development. In our view, these factors have a significant influence on the formation, operation and future development of such a corporation, we further reflected in Figure 1. Connect the vertical plane of the cube, which defined functional load form a complex of educational, scientific and innovative value.

Controls Corporation collegial body of the Academic Council - the Advisory Council SEIC, at least 50% composed of representatives of industry, academia and industry, especially among the strategic partners of the university which are complex agreements on cooperation in the field of education and science, including to encourage innovations and to improve the quality of educational services. As a result, formed the mechanism of realization of feedback from business organizations, monitoring relevant for research and educational innovation corporate segments of the labor market and educational services, effective adaptation to changing demands, an active impact on the labor market and educational services, the implementation of advanced training for the knowledge-based and high-tech industries.

SEIC helps attract capital and financial-industrial groups of other areas, including through training for this business structure, implementation of applied research and development of new technologies.

The organizational structure of the regional scientific-educational innovative corporations should be based on systematic and constantly transformed depending on the new targets related to the provision of quality educational services and production of innovative products.

Thus, the application of a new model of scientific and educational innovation corporation contributes to the modernization of financial management at the expense of SEIC controlling presence of external actors.

To improve the effectiveness of the results of SEIC advisable to establish their own financial institutions with which the system would have worked out the interaction partners. In this context we propose the establishment of an investment company, which will provide customers a full range of services in the domestic securities market.

Science complex model (Figure 1) develop indicators to measure the quality of innovation and educational services, comparing the levels of quality achieved with these and defining their prospects. Innovative methods of improving complex models and ways to improve the generation of innovations corporation. In turn, the interaction of these systems ensures efficient development of all scientific and educational innovation corporations and expansion of the list of commercial products, the main of which are scientific, innovative services and innovative line of research in the field of continuing education with orientation to the segment of additional education.

The integration of vocational education institutions, research institutes, industrial institutes, etc. in scientific and educational



innovation allows a corporation to achieve synergies in addressing the problem of increasing the quality of educational services of higher education of the territorial aspect. The effective operation of scientific-educational innovative corporations in the region contributes to a holistic educational environment, overall activity is organized to improve the quality of educational services tailored to regional needs.

The operation involves SEIC international background to the creation of an optimal educational mega-systems of professional educational institutions, providing continuity between the inner segments and power systems, the development of new types of multi-level educational institutions.

The proposed structure can significantly increase the stimulation of innovation, to meet the needs of the labor market in the region. Functioning multi-level scientific and educational corporation will enable innovative professional educational institutions to carry out their activities on the basis of integration interaction, principled orientation to the educational and socio-economic aspects. Driving integrative interaction of scientific and educational innovation corporations and business structures is shown in Figure 2.

At the same time it should be noted in the market all economic entities are in the same administrative level. Functional interactions with companies and organizations in the region with both the elements of an economic system based on the principles of coordination, autonomy, systemic, complementarity and indivisibility, in which there are structures that produce end innovative products and determine the direction of improving the quality of educational services VPO.

## 4. CONCLUSIONS

Thus, firstly, the model SEIC contributes to more efficient use of the potential scientists of the university and the city. The

corporation introduced the newest educational and informational technologies, which ultimately improves the stimulation of innovation of educational services, due to the quality of which increases the rating of universities in the educational market.

Secondly, the development of SEIC and innovations, as well as improving the quality of educational services makes it possible to ensure the convertibility of higher education on the international level and provide promising opportunities of the Russian Federation to step up activities in international division of labor in the field of education in the context of globalization.

Third, if the scientific and educational innovation corporations, reduced costs and time cycle from scientific idea to the prototype and new technologies. The cooperation of the teaching staff of the university with the experts of partner institutions SEIC gives a sharp impetus to the development of scientific and innovative activities.

Fourth, scientific and educational innovation corporation replenish the revenue part of the budget in the mechanism of stimulation of innovation by the proceeds from the sale of own products, dividends from participation in joint ventures and organizations.

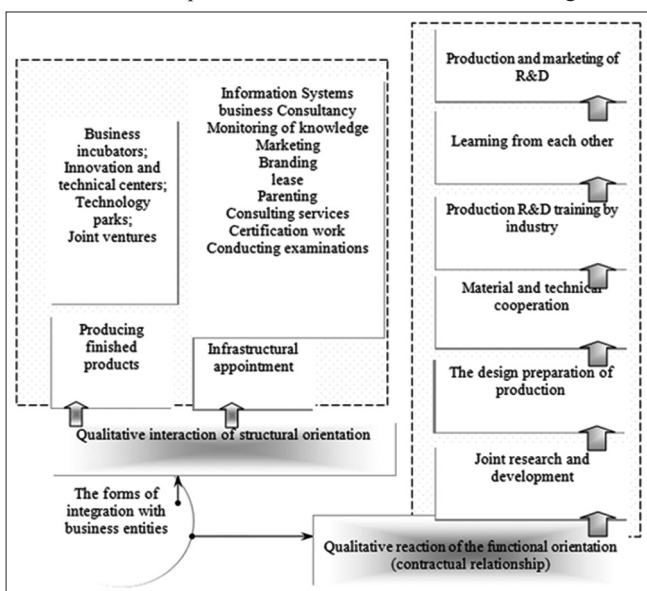
In summary, we note:

- Public-private partnership is considered by us as a means of interaction between the state and business structures in the form of collection development resource capital (the highest form) for the mechanism of stimulation of innovation Shelter in higher vocational education.
- Scientific and educational innovation corporation as an institutional center in the mechanism of stimulation of innovation is based on integrative internal structure, diversification of training and promotes synergies.

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**Figure 2:** The integration of scientific and educational cooperation innovative corporations and business entities in the region



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## Clusters in System of Instruments of Territorial Development of the Russian Federation

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### ABSTRACT

The idea of application of clusters as an instrument of territorial development of the Russian Federation enjoys wide popularity both on regional and federal levels that found the embodiment in formation of a number of the territorial economic structures which are officially referred to clusters. The purpose of this article is to determine whether the territorial economic structures being actively introduced in Russia nowadays can be referred to clusters. The analysis allowed to reveal the main types of the territorial economic structures created in Russia and to describe their distinctive features. Studying the territorial structures created in Russia shows that they can't be referred to clusters owing to basic discrepancy of the mechanism of their formation and the model of clusters emergence and development.

**Keywords:** Clusters, Territorial Managing Structures, Hybrids

**JEL Classifications:** M5, P25, P48, R1

### 1. INTRODUCTION

Nowadays the Russian Federation is in sharp need for the accelerated territorial development. It is connected with the necessity of involvement of new perspective zones of mining (for example, the Elginsky field) into economic circulation, elimination of disproportions in economic development of different regions (due to which economic activity concentrates in a limited number of the largest centers) and – not least – protection against potential economic expansion of other countries (this factor is clearly observed in the Arctic the resources of which are claimed by a number of countries, as well as in the Far East where Russia has to deal with enormous economic power of China). The problem is aggravated with the fact that owing to the western sanctions Russia is cut off from the sources of long-term financing (Zaernjuk and Leonova, 2014), and from the modern production technologies necessary for the oil and gas sector development (which is the basis for the involvement of new territories in economic circulation). Though the impact of sanctions on the Russian economy shouldn't be overestimated, it undoubtedly has a noticeable negative effect and prevents companies from

realizing their industrial potential (Shatalova et al., 2013). At last, the drop in oil price makes part of the regional projects (based on hydrocarbons production) economically inefficient, and possibilities of the state budget for financing the programs of regional development are limited. Moreover, the slowdown of the Russian economy also disputes an economic feasibility of new regional projects implementation (payback of which demands economic growth). One shouldn't forget that the demographic situation in Russia after the Union of Soviet Socialist Republics dissolution was continuously worsened that creates deficiency of the population capable of development of new territories and thus compels to resort to labor import, i.e., such way of completion of population loss which may result in considerable economic and social problems.

In these conditions, it is obvious that Russia needs to use the most effective instruments of regional development in order to provide the fastest solution of the tasks in conditions of the small time horizon and limited financial resources. One of such instruments is a cluster (Vertakova and Plotnikov, 2013a; Vertakova and Plotnikov, 2013b).

## 2. RESEARCH METHODOLOGY

The cluster as an instrument of formation of long-term network ties (Ménard, 2004) among the enterprises and organizations located in the same region has been widely adopted in recent years. It happened due to the fact that on the one hand, the cluster promotes the accelerated development of the region in which it is located (thanks to attraction of considerable number of the enterprises which promotes an increase of economic activity, employment growth, local demand and tax revenues into the local budget), and on the other hand, allows to increase the efficiency of functioning of the participating organizations (thanks to competitive advantages of the region and integration ties among its participants based on competition and cooperation) (Porter, 1998). There has been a considerable number of publications in which the cluster was investigated as a special form of the territorial and network organization of economic activity (beginning with the fundamental work by Porter [1998]), and the practice of clusters application for regional development and increase of efficiency of participating enterprises has been analyzed (Schmitz and Nadvi, 1999; McCann et al., 2002; Hashino and Otsuko, 2013).

It isn't surprising that effectiveness of clusters as an instrument of regional development, proved by the world practice, resulted in aspiration of the Russian government to introduce them in the territory of the Russian Federation. This led to a cluster boom when regional authorities were eager to report on creation of another cluster on the territory of a federative subject.

The purpose of our research is to determine whether these numerous territorial economic formations correspond to the definition of a cluster. It will help to estimate, first, the efficiency of implementation of the state strategy of cluster construction and, secondly, the capability of such clusters (or the structures called clusters in Russia) to perform the task of the accelerated regional development.

The cluster is a special territorial and network form of organization of economic activity. It would be more exactly to claim that the cluster is a special form of the territorial organization of economic activity on the basis of the network interaction of subjects of business activity, state bodies, scientific and educational institutions and public institutes concentrated on a certain territory.

The feature of network interaction is that the structures participating in it refuse purely market regulation (on the basis of price signals), without passing thus to hierarchical administration within the integrated structure (Williamson, 1991; Ménard, 2004; Makadok and Coff, 2009). The theory of network (or hybrid) structures was created by Williamson (1991), and now there is a number of the researches describing various options of these structures, such as the outsourcing relations, franchising networks, strategic alliances and other kinds of companies and organizations integration (Grandori and Soda, 1995; Grandori, 1997; Levin and Cross, 2004; Kotliarov, 2011; Kotliarov, 2013; Grigor'ev and Plotnikov, 2014). As a rule, participants of hybrid structures are firms though there are also exceptions (for example, in case of public-private partnership [Grigor'ev and Plotnikov, 2014]).

The cluster is a network (hybrid) structure; however, it possesses the important distinctive features causing its specifics. First of all, the cornerstone of a cluster is a territorial concentration of its participants. Whereas in other types of hybrids partners can be at considerable distance from each other (for example, outsourcing contracts where performers are in China, and customers – in the USA or Western Europe), in a cluster the territorial proximity is an indispensable condition of its existence. Respectively, a soft integration of participants as a part of a cluster bears a secondary character. It arises in case of sufficient number of the enterprises among which there can be interrelations, whereas the basic prerequisite of a cluster creation (i.e., a condition for creation and successful functioning of a certain number of enterprises) is significant competitive advantages of the region. Such advantages can include large resources of the region, the developed infrastructure, the favorable legislation or large volume of demand for production of a certain industry (the availability of several advantages is preferable). The quality of resource base and the peculiarities of demand determine the key industry which will become the center of a cluster formation and which, in its turn, will specify the industry property of a cluster. Certainly, being a part of a cluster the enterprises of the key industry will be added with firms from associated and supporting industries.

Further, hybrids usually consist of business concerns. The structure of clusters, along with firms, includes various non-profit organizations and bodies of the public and municipal administration. Non-commercial structures (public institutes, educational and scientific institutions) support the development of a cluster being a source of qualified personnel and scientific development for the participating enterprises. As for governing bodies, they carry out legislative support of the cluster initiatives and are responsible for creation of a favorable legal background of the cluster activity.

Not all participants of a cluster are involved in the uniform scheme of interaction because their purposes and interests are different (in comparison with outsourcing, franchizing or strategic alliance where the mechanism of interaction is uniform for all the participants (Williamson, 1998; Ménard, 2004; Williamson, 2008; Kotliarov, 2011; Kotliarov, 2013)). Outsourcing partnership and strategic alliances occur among firms whereas higher education institutions and firms are linked by means of various interorganizational networks. Public and municipal administration bodies also are involved in the network relations in one or another form. Besides, each participant of a cluster can be a member of more than one partnership, alliance or network listed above, which intertwining with each other, create difficult interactions (regulated by different types of coordination) and form thereby a cluster basis.

This feature of a cluster, in its turn, generates transformation of approach to maximizing benefit and to selection of participants. In usual hybrid structure the actions of participants are directed on maximizing joint benefit, whereas in a cluster we say about the maximizing benefit of that partnership the member of which this specific participant of a cluster refers himself to (there can be a few partnerships, and in each situation of a choice the benefit of one of them is maximized). In other words, the participant of a cluster is also directed on collective result – but of not the whole cluster – just of some particular community in a cluster.



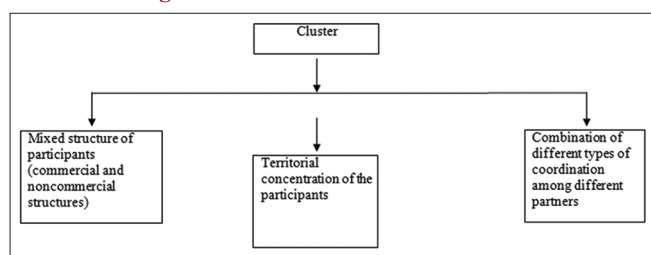
Similarly, in a cluster there is no uniform formal procedure of selection. Each partnership within a cluster develops and uses its own procedures. In principle, there can be the situation when a potential participant having failed to become a member of a partnership in a cluster, joins another partnership of the cluster, and thus enters this cluster. For this purpose it is actually enough to organize a business in the territory covered by the cluster, and the business specialization has to meet the needs of any participants of the cluster, and then sooner or later these participants will enter the relations with this business. The right to organize a business in the territory of a cluster is not limited (certainly, if the nature of business complies with the requirements of the legislation).

### 3. RESULTS

At last, for the same reason there is no uniform coordinating center in a cluster. Some functions of soft regulation can be performed by regional government by means of various measures of formal and informal stimulation, however in the strict sense of the word it doesn't act as the coordinating center.

The analysis of Table 1 shows that the cluster, unlike a hybrid, is not the uniform formation (based on the uniform mechanism of coordination of its participants' interaction). It is a complex structure representing, as a matter of fact, a network of hybrids, the so called network of the second level. It is the criterion of organization on the basis of network association of different networks that we take as the basic distinctive feature of a cluster, along with territorial concentration and the mixed structure of participants (Figure 1). It means that looking as a uniform formation for an external observer the cluster has no

**Figure 1:** Distinctive feature of a cluster



full internal unity. And this is its important advantage (as it allows its participants to choose the most preferable partners and mechanisms of interaction), but at the same time it complicates management of clusters owing to which the role of spontaneous elements in clusters activity is considerable.

We tried to analyze whether the structures of territorial development called clusters in Russia correspond to the above mentioned distinctive features of a cluster. The research of the available sources (unfortunately, mostly in the Russian language) shows that there are considerable differences between these structures and classical clusters (Table 2).

Table 2 shows that formations being developed in the territory of the Russian Federation are not clusters in the strict sense of the word as they don't possess such essential features of a cluster as cooperation and competition, a high level of development of the associated and supporting industries and the market nature of formation. These territorial formations by their nature are closer to industrial special economic zones or regions with industrial specialization.

Thus, analyzing the problems of network economy in Russia it is necessary to remember the specifics of the Russian institutional environment. First of all, the state traditionally plays an important role in the Russian economy, and not simply regulates and arranges favorable conditions for functioning of economic entities. The state also actively uses administrative levers for address impact on particular enterprises, and also has point arrangements with the separate firms. Moreover, such target influence and point arrangements are given obvious preference while forming the institutional environment favorable for the cluster construction. This factor leads to replacement of clusters with the territorial economic formations built by means of administrative levers.

Besides, the level of trust and quality of the contract relations among the participants of economic activity are rather low, especially in case of cooperation of the enterprises with the different scale of activity. The oil and gas sector in Russia can be an example. Actively using the services of foreign oilfield operators (certainly, before the imposed sanctions), the Russian oil-extracting companies established the long-term relations on

**Table 1: Comparative analysis of a hybrid structure and a cluster**

Criterion of comparison	Hybrid structures	Clusters
Prerequisites of formation	Territorial proximity of participants	Territorial proximity of participants
Participants	Commercial firms	Commercial and noncommercial structures, authorities
Coordination mechanism	Combination of market and hierarchical instruments which are uniform for all participants	Different types of partnership and combinative forms of market and hierarchical instruments are possible among a cluster participants
Central governing element (local government)	Usually there is a central governing element	Usually there is no central governing element. Soft coordination of a cluster is carried out in general by the regional authorities by means of legislative initiatives
Selective mechanism	There is a selective mechanism	There is no selective mechanism as such. Any enterprise conducting its activity in this region can be involved in the cluster through any of its participants
Maximizing the common benefit, but not private one	Usually there is maximizing the common benefit	Maximizing the benefit of that partnership the member of which the participant of the cluster refer himself to, but not of the whole cluster

**Table 2: The comparative analysis of clusters and the Russian territorial economic structures**

Criterion of comparison	Cluster	Territorial economic structures in Russia	Territorial industrial complexes in Russia
Incentive of formation	Market (the enterprises initially use competitive advantages of the region, and then build interactions to increase the efficiency of their activity)	Administrative and voluntaristic (the decision on formation of a structure is made by the federal and regional authorities)	Possessory (integration of technologically related enterprises within uniform corporate structure)
Cooperation and competition	There is cooperation and competition	Quite weak (the interaction among the enterprises within a territorial formation is weak)	There is no internal competition or cooperation among subdivisions (the uniform economic policy is carried out according to the owner's purposes)
Selective mechanism Participants	There is a selective mechanism in each partnership participating in the alliance Commercial structures, scientific and educational organizations, public institutes, authorities	There is no selective mechanism or it is performed by administration of the region Mostly commercial structures. The companies of the associated and supporting industries are poorly presented. Participation of the scientific and educational organizations isn't enough. Government bodies are poorly involved in network interactions, preferring to regulate the cluster	Selection is carried out by the owner Commercial structures, mostly within vertical integration
Uniform regulator	There is no uniform regulator. The regional authorities can softly regulate the cluster by means of measures of indirect influence	Regulative functions are carried out by authorities rather rigidly. They directly participate in management of the cluster activity	Owner
Examples	It is difficult to find a cluster in its pure form in Russia. Probably Saint Petersburg pharmaceutical cluster being in its germinal state can be given as an example	Saint Petersburg automobile cluster, the Sochi sports and recreational cluster	The petrochemical cluster in Tatarstan

the basis of hybrid model (as it occurs in the world). An important condition of such equal relations is high negotiation strength of foreign oilfield operators and a big scale of business that reduces possibilities of rendering pressure from the side of oil-extracting companies. However, the model of cooperation with the Russian oilfield operators has essentially other character. The small scale of activity of a number of oilfield service providers, the absence of significant specific assets and small negotiation force lead to their complete dependence from oil industry workers (creating "a force hybrid" with them in Oliver Williamson's terminology). Network communications between large and small business are absent, and it is a key condition of formation of clusters.

At last, the ties of business, science, education and government are at a very low level, but the involvement in the network relations of all the above-mentioned elements is an indispensable condition of clusters creation.

In these conditions the development of clusters is extremely difficult. They will be replaced with surrogates possessing a certain similarity to clusters (for example, special economic zones or complexes of close located enterprises of one industry), but not being clusters in the strict sense of the word. It is obvious that it doesn't allow using the potential of clusters as an instrument of territorial development in full.

It is very important to understand that the kinds of territorial economic formations described above can also be used for regional development. They have their own field of application, and they

can be used as addition to clusters (for example, they can act as the predecessor of a cluster), however treating them as clusters and trying to realize a cluster strategy on their basis means to make an administrative mistake.

Thus, it is possible to claim that today the considerable part of the territorial economic formations declared as clusters in the Russian Federation are not clusters. The reason is that clusters are mostly constructed by administrative influence "from above" or on the basis of possessory control over the enterprises (as a rule, technologically connected) belonging to the territorial complex, and by means horizontal ties among the participants of economic activity. It is caused by the peculiarities of the institutional environment of the Russian Federation and the necessity of the fastest formation of clusters owing to which the government does not want to have this process spontaneous, but it uses the habitual methods instead of those actually required.

## 4. CONCLUSIONS

Answering the questions of the research, it is possible to claim that most territorial economic formations functioning in Russia cannot be called clusters and, as a result, the strategy of cluster development is realized inefficiently.

The prospects of cluster construction in Russia are rather disputable. We believe that elimination of the existing problems requires change of the institutional environment in the Russian Federation, a key condition of which is change of the tools used

by the executive power. However now the Russian government got to some kind of time trap, i.e., transformation of the institutional environment is rather slow process, and the modern geopolitical situation requires rapid results.

As a consolatory conclusion of the research we can point out that at favorable scenario the existing territorial formations can act as proto-clusters, i.e., kernels on the basis of which full-fledged clusters will be created.

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## **Formation of the New Forms of Management Systems Spatially Localized Economies in the Paradigm of the Cluster Approach**

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### **ABSTRACT**

The analysis of scientific papers showed that many scientists pay considerable attention to the study of various aspects of the effectiveness of new models of business management in the formats of industries and regional economies. At the same time remain insufficiently studied problems of formation of organizational and economic instruments of the cluster approach, taking into account sectoral and regional specificities of the territories. In addition, it should be noted lack of practical research on evaluating the effectiveness of cluster management in an uncertain environment. Therefore, the need to strengthen the scientific component in the functional verification of the effectiveness of organizational and economic development tools cluster management technologies based on the analysis of factors external and internal environment of the regional economic system determined the direction of the research thesis and justification of its goals and objectives.

**Keywords:** Management System, Cluster, Regional Economy

**JEL Classifications:** G3, P25

### **1. INTRODUCTION**

Considering the impact of the cluster approach to the emergence of new forms of economic relations in the market conditions it should be noted that the advantage of the cluster approach is that it not only makes a significant number of companies under the overall auspices of, but also attaches importance to the social and regional aspects of development. This approach promotes territorial development, helps to increase employment, improve the competitiveness of the region, the growth of regional and local budgets. In the economic and legal literature there are different classifications of business associations. They are considered to be:

- Unions, whose members maintain their independence and the right to the full (cartels, consortia, associations, unions, boards, guilds, chambers and the like, that is, non-profit organizations, including in the form of legal person created by participants with a view coordination of business activities,

lobbying and protection of common interests, more efficient organization of work in consulting and information support);

- Unions, whose members interact with each other on an incomplete amount of the activity and retain autonomy in the management of (the trade unions, industrial groups, conducting a coordinated policy in a particular area of business, financial and industrial groups);
- Associations in which part of the function of management is transferred from one participant to another (trusts, concerns, holdings).

However, in our view, business associations can be classified as other criteria for characterizing the type of production and economic integration (vertical, horizontal, conglomerate); industry affiliation (sectoral, cross-sectoral); according to the degree of diversification (Mono-profile, multi); scale activities (regional, inter-regional, trans-national, inter-state), and others.



In our view, given the criteria for classification are more economic than legal in nature, since only in a few cases, the legislation sets forth features of the legal regulation of a particular type of business association.

## 2. RESEARCH METHODOLOGY

The object of research is a group of companies that form a cluster of regional agro-economic system of the Krasnodar territory. The subject of research is the functional content, objective factors, organizational and economic development trends of the clustering of agricultural enterprises in the form of regional economic system in the region.

In developing problems using different methodological approaches, including a systematic approach to its subject-object-structural and functional aspects; methods and instrumentation technology research, the method of peer review, the use of which allowed for the validity of theoretical propositions and arguments conclusions (Migranyan, 2015). Theoretical and methodological basis of the research were the works of domestic and foreign scholars in the field of fundamental problems of regional economic development, control theory presented in the scientific literature as well as works of local researchers on the development of cluster technology in the management of localities.

## 3. RESULTS

The most common form of business associations in the current environment are holdings (Shitkina, 2007). Holding company has a special role in shaping the country's budget. Therefore, exploring new forms of economic relations generated by the cluster, we consider it necessary to consider the formation of the holding clusters that combine the features of the holding as a conglomerate of different entities as well as cluster technology, created based on the flow of knowledge from one company to another.

Large enterprises education cluster holding structures can significantly increase its assets to increase capital investment, optimize taxation via subsidiaries, using in-house tools.

Despite this, the Russian legislation does not contain legal regulation of activity of cluster holdings. In this regard, we consider it necessary to consider the different definition of "holding" in the Russian legislation, the types of holdings, as well as the advantages and disadvantages of the cluster holding the model of business organization, in order to continue to offer the most optimal form of cluster formation at the regional level (Table 1).

Recently, the Russian holding companies referred to any conglomerate association of commercial structures in which the relationship between the management company and wholly-owned subsidiaries are regulated not only and not so much ownership of, or a measure of participation in the authorized capital as means of various forms of contractual relations, defined by the current legislation (Shuvalov, 2003).

Based on the above, we propose the following definition of cluster holding. A cluster is a group holding economic interaction entities focused, as opposed to the "classical holding" on one geographical area with a homogeneous industry affiliation, in which the share of the parent company (the core cluster) does not provide complete control over the activities of other members of the holding (Suire and Vicente, 2013).

This definition is very organically reflects the basic idea of creating a business cluster type: Cluster holding should promote the active reallocation of funds between companies with the aim of self-financing of large investment projects and transactions, as well as knowledge, which can flow through the exchange of expertise and technology within the cluster.

In the scientific literature (Alabugin, 2005; Kristenin, 2004) states that any cluster passes through a number of stages. They may not be identical, and the pace of development may vary, but there is an internal logic of the way in which the clusters are developing, which makes it possible to discern some characteristic patterns of the clusters. Even though the exact shape and direction will depend on the specific circumstances, the cluster goes through the following stages of the life cycle:

1. Agglomeration: In the region there are a number of companies and other actors.
2. The resulting cluster: Some participants are beginning to cooperate agglomeration around the core business and realize common opportunities through its communications.
3. The developing cluster: There are new members or involved the same or related activities in the region, and new relationships between all the new actors. There may be formal and informal institutions for co-operation. Often begin to arise names, websites, general content related to the region and activities.
4. Fermented cluster: It has already reached a certain critical mass of actors, developed communication beyond its borders, with other clusters, activities and regions. There is an internal dynamics of the creation of new firms by their appearance, joint ventures, by separating.
5. Transformation: Over time markets technology and processes change, as well as clusters. For a cluster to survive, to be viable, to avoid stagnation and decay, you must innovate and adapt to change. He can choose the form of the conversion of one or more new clusters that are centered around other activities, or just to change the ways in which supplied products and services.

It should be noted that the distinctive feature of the cluster is the lack of a single legal entity, it is more consistent with the model of holding type. The cluster is not a single economic entity.

Strategic planning of the development of the cluster in some cases, carried out in accordance with a specific scenario (in the case of active participation in the development of a cluster of authorities). It is often joint planning of business groups, business entities, temporarily uniting for joint projects.

It should also be noted the obvious difference in terms of "cluster" and "Industrial Park," "Technopark," "industrial area," and some others, mainly reflecting structural features. The term "cluster," in

**Table 1: The definition of “holding” and its connection with the development of clusters**

The essence of the definition of holding	Contact the holding structure of the cluster from the perspective of a variety of sources
<p>Kashanina (2003) Holding, in its view, it is “not so much a voluntary association of corporations as forced to not divide and survive and maybe even improve their competitiveness”</p>	<p>Education cluster is a concentration of the most effective and interconnected economic activities, i.e., set of interrelated groups successfully competing firms, which form the “golden section,” in the western interpretation of “diamond – diamond” of the entire economic system of the state and provide a competitive edge in the industry, national and global markets (Mihrianyan, <a href="http://subcontract.ru/Docum/DocumShow_DocumID_171.html">http://subcontract.ru/Docum/DocumShow_DocumID_171.html</a>)</p>
<p>Ivanyuk (2005) Holding - an association of legal entities, in which the holding company by virtue of participation in the authorized capital of the business entity or by nonprofit institutions exercise control over the other members of the holding for the purposes of the common economic policy in order to achieve one or more objectives that are common to the entire holding</p>	<p>A cluster is a group of interconnected companies and associated institutions in a particular field, geographically closely located and connected by some commonality or complementarity (Porter, 2006)</p>
<p>Shitkina (2003) Holdings are a variety of groups of individuals, based on the relationship of economic dependence and control, whose members, while maintaining the legal autonomy in their business activities are subject to one of the members of the group, which by virtue of ownership of a majority of shares (stakes in the authorized capital), the contract or other circumstances. It has a decisive influence on decision-making by other members of the group</p>	<p>Cluster - Community firms, closely related industries, mutually contributing to the growth of competitiveness of each other (Tsikhan, 2003 and Tretiak, 2003)</p>
<p>Shuvalov V. (2003) Holding company is a business entity that is prevailing share in the authorized capital of other companies (holding participants), or in accordance with the contract, or otherwise has the power, directly or indirectly (through a third party) to determine the decisions made by business entities - parties holding</p> <p>Portnoy (2004) Holding - a group of individuals, including the parent company (holding company), and other business entities in respect of which the parent company has the opportunity to determine the decisions taken by them</p>	<p>The term “cluster” refers to the sectoral and geographical concentration of enterprises that produce and sell a range of related or complementary products jointly (Tretiak, <a href="http://subcontract.ru/Docum/DocumShow_DocumID_133.html">http://subcontract.ru/Docum/DocumShow_DocumID_133.html</a>)</p>
<p>Shitkina (2006) Holding - a form of business association, is a group of organizations (members) based on the relationship of economic dependence and control, whose members, while maintaining the formal legal independence in its business activities under one of the band members - the holding company (the parent company), which is being a holding center association, by virtue of owning predominant interests in the authorized capital, contract or other circumstances directly or indirectly (through a third party) has a decisive influence on decision-making by other members of the group</p>	

addition to the structural features, primarily reflects the functional features - the current system of relationships: Cooperative relations, transactions, competitive relations, the exchange of information, etc. At the same time, the industrial park or industrial park may be the “core” of the cluster in the industrial district can form clusters and proto sub-holding clusters.

Consider the main types of clusters formed at the stage of its creation, for the purposes of further study of the new structure of economic relations at the regional level.

- Based on the type of addiction, established by the legislation, the clusters can be divided into:
  - Property - based on the prevailing participation in the authorized capital or the presence of a controlling stake (Parfenov, 1999; Kobersy et al., 2015);

- Contractual - when economic relations arise because, in the framework and for the term of the contract (Bolumole et al., 2015);
- Organizational - when economic relations are formed due to other circumstances not directly named in the legislation.

The most common in the Russian and international business and, accordingly, a study in the scientific literature are the property clusters. It is very often in practice, in relation to a particular cluster, there is not one but several types of addiction. Availability of organizational type, depending, as a rule, supplements property and contract relationship, and follows from the ownership of the majority of shares (stakes) or contract. Contractual relationship is often formed in the development of the existing controls in the authorized capital (Shitkina, 2003).

2. Depending on whether the parent company of the cluster exclusively holder of shares (or shares) of subsidiaries are not engaged in this independent production, trade, banking and other commercial activity, or whether it also deals with any commercial activity. There are two types of clusters: Clusters of pure and mixed clusters.  
In pure parent enterprise cluster (nucleus) is not conducting any commercial activity, and owning controlling stakes (dominant equity participation) other members of the cluster, only carries out monitoring and control functions for the management and coordination of the activities of other participants.  
In a mixed cluster of parent company, in addition to the control and management functions in relation to the other members of the cluster, also performs independent business, business. In this form of the parent enterprise cluster (nucleus) is playing a sort of a double role: On the one hand, it is the management company, on the other - industrial enterprises, banks, traders, etc. (Portnoy, 2004).
3. Depending on the characteristics of owners include the following varieties of clusters: Public and private clusters.  
State is a cluster in which the participation of the state (municipality) in the authorized capital of the parent company allows the state (municipality) monitor such integration.  
Accordingly, the private is a cluster in which the authorized capital of the parent company formed from the contributions of private entities - commercial organizations and citizens. A variety of private clusters are family clusters.
4. Depending on the nature of production and economic relations between the members of the cluster and the way the United distinguish horizontal, vertical and diversified clusters.  
Horizontal clusters (sales) - mergers of companies operating in the same market (energy companies, marketing, telecommunications, etc.). They are a homogeneous union affiliated businesses in, for example, the territorial structures, managed by the parent economic entity. The main objective of this association is to establish a uniform system of suppliers and numerous subsidiaries performing sales functions. If such subsidiaries lot, common rules are needed to regulate their activities.  
The specifics of a horizontal cluster are that subsidiaries that are included in it are dispersed. Thus, a cluster to create a single policy for a particular type of product (sold in the form of discounts, gifts for clients, etc.). In this case, centralized management plays an important role in the development of a common policy.  
Vertical clusters (production) - an association of enterprises in a production chain (raw material extraction, processing, output, sales). As an example, associations engaged in processing agricultural products, metals and oil refining.  
Diversified clusters, unlike the horizontal and vertical, are a form of association of various businesses operating in different markets. Their creation is associated with the spread of economic activities in the new areas of the cluster (with the expansion of the nomenclature of products, types of services, etc.). This often companies do not go for a full merger, but create a particular mechanism of interaction, allowing them to maintain the status of a legal entity and thus cooperate with other enterprises (Dracheva and Liebman, 2001).  
International clusters are widely used form of diversified companies to control and direct subsidiary of JSC allocated on any grounds (national, sectoral, etc.).
5. From the point of view of the functional activity of filling the cluster in the foreign and Russian literature allocate financial, managing, and mixed financial manager clusters.  
The financial cluster has as its dominant function, the formation of the equity portfolio of the parent company in the subsidiaries. The financial cluster, the parent company does not carry out management activities of the union leadership. This kind of cluster, in our view, can be classified as an investment cluster.  
Cluster manager is a basic cluster (main core) in which the parent company exercises a common economic management of subsidiaries. Keller calls this form of government – “cluster of clusters” in the narrow sense (Keller, 1996). Other experts say it is managing a cluster of classic (Portnoy, 2004).  
In turn, the control cluster (core cluster) is divided into two subspecies - to strategically manage the cluster, when the parent company is limited only by the development strategy of subsidiaries, thus providing a synergistic effect association, and does not interfere in the operational production activities, and proactively manage the cluster when the current parent company controls the production and economic activities of subsidiaries. Thus, a cluster that combines the functions of financial and control, referred to as financial manager (Shitkina, 2003).
6. In terms of the availability of “a system of participation” and highlights the major structural complexity of the cluster and the intermediate cluster or a cluster sub-holding.  
Intermediates clusters exist in multi-tier cluster associations when subsidiaries constitute the main cluster of intermediate cluster, being the parent company in respect of its subsidiaries (Shitkina, 2003).  
The cluster sub-holding as a legal entity must be under the direct (member of the first level) or indirectly (sub subsequent levels) the control of the main companies of the cluster and set up on a variety of subsidiaries of concentration for the main enterprise on the strategic objectives of the cluster of the holding as a whole (Vinslav and Germanova 2001).  
Often, through the creation of an extensive system of participation in a cluster ensures the stability of the whole group, because in this case significantly reduced business risks.
7. Depending on the deployment of a cluster of enterprises are: Transnational cluster and national cluster.  
Transnational clusters are business entities placed in various states. As a result, as a rule, the wide geographical dispersion of its companies, transnational clusters are often registered in the States, which, along with special tax advantages (especially in the form of favorable taxation of foreign dividend income and profits) facilitate access to international financial markets and the special financing instruments.  
An essential feature of the national cluster is a dislocation of the participants in the same state.
8. From the standpoint of industry sector and cross-sectoral distinguish clusters (Melnikov, 2004). For example, vertically integrated oil companies are industry clusters. You can call the



industrial, agricultural, transport, energy and other clusters. Not all of these types of clusters has a specific legal regulation, some are not even mentioned in the laws and regulations.

After considering the variety of clusters, and investigate the conditions, factors and assumptions of cluster formation (spatially localized economic systems) in the territory of the Russian Federation, in particular the Krasnodar Territory and the Republic of Adygea.

#### 4. CONCLUSIONS

Thus, the allocation of a typology of regions can be characterized by the economy in the region, the labor market situation of households, especially settlement, migration and socio-demographic situation. Typology of regions must be based, in our view, a hierarchy, with the release of basic differentiating features. This choice, of course, subjective, but it can be made on the basis of the expert and analytical experience. We distinguish several components:

1. The level of economic development of the region and the economic status of households - the main differentiating feature of the market in Russia, and its indicators (per capita gross regional product [GRP], the ratio of cash income to subsistence minimum and the poverty rate) were seen as a three-pronged component to estimate the total production of income inequality and its consumption income.
2. The development of the territory, estimated by the population density, which reflects the degree of favorable climate, the type of economic use, the provision of infrastructure and much more. For the vast and diverse territory of Russia's territorial factor is extremely significant.

In our view, the typology should be constructed in the coordinate system, which allows to distinguish four "extreme points," which are the subjects of the Russian Federation:

1. "Rich" and development;
2. "Rich" and poorly developed;
3. "Poor" and development;
4. "Poor" and poorly developed.

With the coordinate system is somewhat easier to structure and other socio-economic and socio-demographic characteristics of the regions. They are superimposed on the basic differences and complementary typology, although it is clear that changes in total synchronicity of all components by type cannot be.

The actual number of different types of logic, imbalance of regional development in Russia is so strong that as a "rich" entities - economic leaders can be identified only Moscow and two autonomous districts of Tyumen Region. By "rich" Tyumen oil-producing districts close Nenets, but so far only in terms of GRP. The next group of leaders of the regions lagging behind significantly, it is called a relatively developed. Most large and fuzzy "middle," i.e., media group. The group of outsiders as heterogeneous in addition to the basic division of income and development, the latter two groups are separated by geographical location, taking into account the level of urbanization as an additional factor.

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# Public-private Partnership: The Model of Interaction of Regional Socio-economic Systems in the Trans-regional Space

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## ABSTRACT

Authors explore the feasibility of the model of public-private partnership (PPP) in the framework of cooperation of regional socio-economic systems. The authors have disclosed basic capabilities and limitations of the use of models of PPP. In the scientific revolution unsettled economic categories "virtual economy," "network economy," "information economy," which opens promising areas of research. In turn, the category of "PPP" breaks new ground in understanding the nature of interaction between businesses and public authorities. The question arises, present or absent interconnection of informatization of society (and the economy) and the development of PPP? What is the model of PPP within the framework of interaction of regional socio-economic systems in a trans-regional space? In our study, we assume that the PPP within the framework of the interaction of regional socio-economic systems in a trans-regional space - an alliance of government and business to achieve the maximum development of information society, the formation of the virtual economy and the associated virtual interaction of regional socio-economic systems in a trans-regional space.

**Keywords:** Economic Cooperation, Socio-economic Systems, Information Economy

**JEL Classifications:** Z1, P25

## 1. INTRODUCTION

It is worth noting; in June 2007 an agreement was signed between the Russian Union of Industrialists and Entrepreneurs and the Ministry of Education and Science of the Russian Federation. This document assumes a strategic partnership Union of Industrialists and the Ministry of Education and Science of the Russian Federation in a number of areas, namely: (1) The formation of a national system of qualifications and national system of standards of professional education, (2) development of an independent evaluation of the quality of education, (3) the development of modern innovative programs of vocational Education ([Duma.gov.ru](http://Duma.gov.ru), 2015).

New forms of organization in the field of knowledge transfer at the federal level are implemented as "Macro Institutes development"

such as "National Venture Company" ([Newsruss.ru](http://Newsruss.ru), 2015), as well as in the field of corporate universities in large companies like Russian Railways, "Lukoil," "Gazprom," "Severstal" et al., which carry out educational programs for training and retraining of workers ("Corporate Universities in Vocational Education," 2005).

## 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, as well as the theory of state regulation, the works of local and foreign scientists in the field of PPP, as well as the economics of education.

The theoretical significance of the work is to develop understanding of the relationship of market and state elements in the field of PPP, which may serve as a theoretical basis for the development of the federal concept of PPP, for example in the field of educational services, as well as partnership programs of the university with the business community. The practical significance of the study lies in the possibility of introducing specific recommendations for the development of PPP in the system of higher education.

### 3. MAIN PART

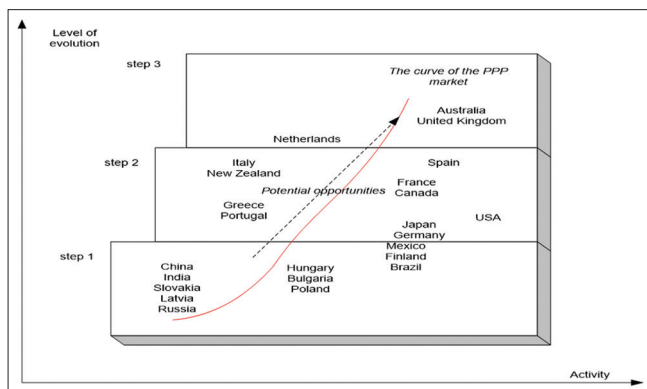
PPP provides a mechanism to attract private investment and institutional development of organizations, without giving the privatization and conversion facilities and agencies (PPP), which creates conditions for the mutual interest of the state and businesses to participate in the development of the activities of these industries and institutions in the “soft” form of transformation of state property. The level of development of PPP reflected in Figure 1.

In the literature and actual practice can meet the following terms used to characterize the PPP as a model for the interaction of regional socio-economic systems: The PPP; partnership between the state and the private sector; municipal-private partnership; PPP; public-private cooperation; PPP; PPP. They are all in their own way reflecting the various aspects of this phenomenon and are very useful for scientific understanding.

First of all, you want to define the concept of “PPP.” Many authors have noted that there is no precise definition of PPP, “the terminology used to describe PPP is not standardized” (Newsru.ru, 2015).

International instruments essence of PPP is defined as “a form of cooperation between public authorities and the business foundation whose purpose is to provide financing, construction, renovation, management and maintenance of the infrastructure facility or the provision of services” (Green Paper on PPP and Community Law on Public Contracts and Concessions. Commission of the European Communities, 2004) or as “a partnership between the public and private sectors the aim of the project or service traditionally provided by the public sector” (Guidelines for Successful Public-private Partnerships, 2003). It is emphasized

**Figure 1:** The level of development of public-private partnerships in the world



that this particular format i.e., interaction between government and business, which includes the various forms of long-term contracts concluded between legal entities and state authorities. Their purpose is to finance, design, implementation and management services provided by the public sector (United Nations. Economic Commission for Europe, 2015).

Thus, the hallmarks of a public-private contract documents the relationship of PPP are: Long-term, compulsory representation of both private and public sector and the purpose - the provision of public services.

A number of foreign studies analyzed the peculiarities of the model of PPP, and identifies the following features of the PPP (Vertakova and Plotnikov, 2014; Bult-Spiering and Dewulf, 2006):

- Purpose of the agreement is to achieve a “more mutual benefits” and the implementation of the joint task subjects interaction of regional socio-economic systems;
- Participants at the conclusion of the agreement by their own interests;
- Revenues are divided in proportion to the investment of participants and risk-taking;
- Cooperation Agreement formalized.
- There are signs, the presence of which in the interaction between business and government indicates that it is a PPP. Here they are:
- The partnership must be presented, both public and private sectors;
- Relationship by PPP should be a partnership, that is equal in nature;
- By PPP should have common goals and clearly defined public interest;
- By PPP must combine their contributions to achieve common goals;
- Relationship by PPP should be recorded in official documents (agreements, contracts, etc.);
- The part of PPP should be distributed among themselves the costs and risks, as well as participate in the use of the results.

Partnership between the state and the private sector is a model of an alliance between the government and private business in order to implement national and international, large-scale, socially significant projects.

It implies that the partners have agreed to work closely together to improve the quality of services in the public interest, and the availability of negotiated agreements on the division of benefits and rewards, using qualified professionals, expertise and financial resources of a large number of sectors. Such partnerships are usually encouraged and supported through government policies.

PPP as an organization is determined by a balance between economic interests of participants of PPP. Violation of the balance of interests of participants of the PPP defines “range transformation” integrated interaction of subjects within the PPP.

The effectiveness of the organization PPP will be the greater, the more mature and clear will form benefits the participants of

strategic partnership “shell” and the less will be the cost to integrate integrated interaction taking into account the neutralization of opportunistic behavior of participants and the effectiveness of the solution, “agency” problems and issues delegated risks and responsibilities between the PPP.

The quality and effectiveness of PPP are closely related, the higher the cost of organizational interaction of the subjects, the lower the quality and balance of their interests.

Transformation of state mechanisms manifested through PPPs, for example in the field of education in the development of a “market” element in the provision of public goods in order to improve the quality of life of citizens. For the private sector the transformation manifested in the development of the “social” element in the provision of private benefits on the basis of corporate social responsibility and the ability to attract knowledge as intangible asset in installments when the return on investment is done at the expense of tax revenue, taking into account the stipulated percent previously. For the transformation of educational institutions appears to change the structure and content of the educational process in the framework of innovation-oriented organizations to provide educational services through additional funding to bring the scientific development to commercial level of patenting and securing copyrights and to obtain new competitive advantages in the market of educational services.

PPP is seen as an alternative to the direct and indirect methods of innovation system. The direct methods include direct government orders, tenders, the maintenance of proper contracting market.

At the same time it should be noted that the method of indirect financing is an essential element supporting the Institute of PPP, since the tax benefits received by private businesses involved in educational activities and research and development, provides a tax incentive the participation of the private sector in the financing of education.

The nature of this interaction, methods and concrete forms can vary significantly depending on the maturity and national characteristics and market relations. The state is never free from their socio-critical functions related to the national interests and business, in turn, it is always a source and motor development and increment of new knowledge.

Use of PPP as a model for interaction of regional socio-economic systems appropriate to the implementation of entrepreneurial projects with a long payback period, and a large volume of necessary investments, which are not profitable in the short term entrepreneur. It is worth to emphasize that the informatization of society, the development of virtual forms of interaction are the projects with the highest payback. Model PPP allows the delegation of entrepreneurial risk between the private and public sectors of the national innovation system, which contributes to the implementation of strategic importance for the national economy of innovative breakthroughs and strengthen the competitiveness of the country, characterized by a positive long-term socio-economic effects.

It should be noted that the feasibility of the model of PPP of the regional socio-economic systems (e.g. for education) is due to several factors:

- Formed ruptures in the relationship “education - research - mass innovation” imbalance of relationships that provide the harmonization of interests and balance of participants in the interaction;
- Dramatic changes in the state economy, the domination of private ownership, effective use of which requires the partnership of government, business and society;
- Department of administrative resources of power from direct involvement in private ownership and a weak presence in the power business, has significant liquid resources, the modern intellectual, organizational - economic potential;
- The provision of educational services as a strategic resource in the hands of the state, the need to improve their efficiency in education due to the advantages of cooperation with business, in order to cover costs and to increase profitability of the state budget;
- The benefits derived from the partnership of government, business and society in different forms of its manifestation.

The government sees the private sector additional resources, effective management and expects to benefit from this. Entering into a partnership with the business, it usually gets not only the possibility of attracting additional sources of financing reduces the burden on the budget, but a more flexible and efficient than the traditional bureaucracy, project management system, enhancing the effectiveness of public spending. In partnership management of private organizations to be more effective, since the processes of making and implementing management decisions more democratic. This brings mutual benefit to partners from working together, as the public sector suffers from the relative slowness and inflexibility.

The state also received dividends in the form of increased tax revenue to solve social problems and improve the overall level of production, thereby increasing the competitiveness of products and services in domestic and foreign markets.

Motivation to participate in a model of partnership of the public sector, and due to the stimulation of innovation activity of businesses that produce high-tech products; the creation of new high-tech firms and the support of small and medium innovative enterprises; the development of key technologies for federal needs; involvement in economic turnover and commercialization of research and development results obtained with the use of the state budget; capacity and infrastructure development.

Business walking on economic cooperation with the state relies on the support by the administrative, material, financial and natural resources of the state, seeing in the state or municipal authorities stable, reliable, responsible and mutually beneficial partner. Private business takes the main business risk in the market and, as a rule, has the largest share of the profits. He gets for himself a certain set of safeguards, preferences and hopes to remove many barriers to its development.

Motivation to participate in the partnership model of the private sector and due to the new opportunities for innovative business development. However, private companies may also join a PPP with the more specific motivations, in particular, to ensure access to the results of research and development of the public sector; access to public infrastructure, as well as information and high-tech equipment.

As a rule, the model of PPP of the regional socio-economic systems radically changes the economic ties and relations between government and business for the better, promoting effective cooperation and reduces the probability of occurrence of different types of conflicts.

By sharing resources and knowledge, both sides benefit from the synergies, risk sharing, which in other circumstances would have been impossible. Mechanisms for sharing capabilities of the state and business, and create conditions for the promotion of best practices in solving problems in the public interest.

The most important problem of PPP of regional socio-economic systems associated with the redistribution of property rights that arise in the process of escalating administrative and power relations of the state and business partnership, set forth the parties' agreement.

Different models of PPP reflect varying degrees of ownership and management of public-private agreements - all of the powers of the designated property by one of the partners to the assignment of property rights of some other parties for a certain period and under certain conditions.

PPPs in education serves as an educational alliance between government, business and the public sector in order to implement socially - oriented projects and the provision of public services. The State is responsible to society for the uninterrupted supply of public goods (public goods), which explains the tendency to preserve a number of sectors and industries owned by the state. Within the PPP, while maintaining the most important national facilities in state ownership of the proprietary rights are delegated to the private sector. Thus, in the traditional public sphere of the economy are brought a kind of private goods and services (private goods), which creates conditions for the effective functioning of these objects, the optimal management and rational use of resources.

The most important prerequisite for the emergence of PPPs in education is the natures of the relationship alyansovy PPP participants therefore require fundamentally different approaches that can predict the impact of their activities and the qualitative characteristics of educational services.

In contrast to the PPP model in the field of education there are the economic benefits of integration of participants of PPP (profit sharing, tax incentives, discounts, reduced interest rates, a new intellectual property, property gains, etc.), As non-economic benefits (tacit knowledge, competence of workers, flexibility organizational technologies, programs, cultural mobility

of employees to create a favorable image of the company, strengthening the intellectual base of education and human capital used in the field of education, ensuring compliance graduates the structure of demand in the labor market). Characteristic features of PPP as an educational alliance are:

Firstly, polystructural subjectivity (collective process of appropriation - the expansion of market power in the provision of educational services (government, business, employers, consumers, suppliers of educational services).

Secondly, polystructural object assignment (assignment of knowledge, skills, explicit, implicit, routines, etc. (the competence of workers, flexibility in educational technology programs, cultural mobility of employees).

- Performance attribution effects (reduction of social risks, the site of the future interactions of innovation, appropriation of adaptation possibilities of differentiation of educational services and their results for the further implementation).
- Assignment of monopoly rents as the experience of harmonization of formal and informal mechanisms of interaction between participants of the PPP alliance relations.

Third, poly-functionality form assignment (assignment of non-economic (exchange of knowledge, routines, customs, etc.), the assignment of the economic (income benefits).

Thus, the process of implementation of the model of PPP as educational alliance is not limited to the production of educational services, and formed an alliance under negotiation; distribution, exchange and consumption efficiency of educational services.

Unlike the standard full-scale privatization in the partnership between the state retains a significant degree of economic activity and control over economic processes, as in a series of "use-own-order," a gradual transfer of property rights from the use of a disposition of property to the private sector, in most cases the order is up the state, which defines the content, the operation of the integrated model of interaction between participants of PPP.

In foreign practice, the classification of the PPP model is carried out in accordance with the model of interaction between the state and business:

- PPP contractual nature (private finance initiative of the individual stages of the project, the model of concessions);
- PPP of an institutional nature (independent object is created under the project).

Classification of PPP models, depending on the state or private funding and the degree of integration of design stages is reflected in Figure 2.

It is necessary to take into account the peculiarities of the implementation of PPP in the field of vocational education, which are shown in the following mandatory conditions:

1. Compliance with the priorities of the social importance of vocational education - namely, the provision of quality



education and equal access for all citizens of Russia, the preservation and performance of the entire volume of the social challenges facing the state and municipal educational institutions (educational institutions), timely and adequate satisfaction the needs of society and the economy for highly skilled labor force;

2. Consideration of each PPP model as a complete project, which should be identified and recorded:
  - The aims and objectives of the PPP model;
  - The formation and management of partnership activities;
  - Resolution of conflicts of interest, the system of internal control and risk management of PPPs;
  - How to use the revenues and the order of distribution costs resulting from the implementation of PPPs;
  - Rights and obligations of the partnership;
  - Requirements for each side of the partnership;
  - Conditions and procedures for reporting and disclosure of information about the process of implementation of partnership activities;
  - The conditions and procedure for termination (disbandment) partnership.

It should be noted that the development of PPP models over time to evolve from the models based on the market contracting for institutional and integrated into the international practice the ratio between 3% - contract models, and 97% of Figure 3 (Novikov, 2009).

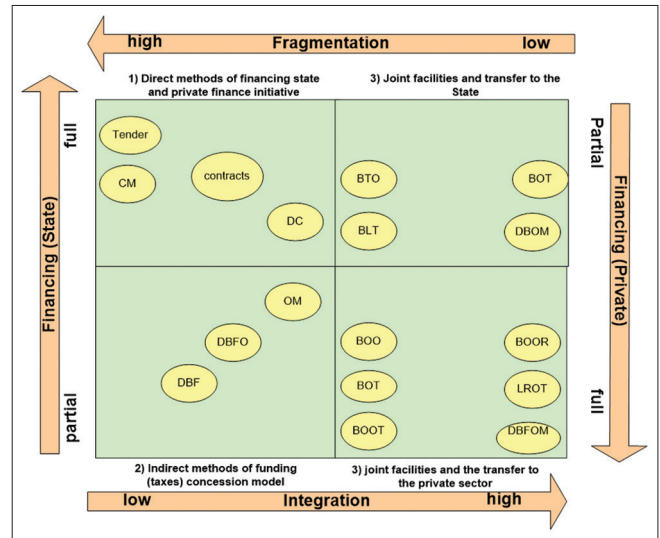
The dominance of institutional PPP models due to a number of factors associated with the possibility of splitting ownership of the infrastructure and enhancing the integration of the various stages of the project, which involves a variety of effects to save the product life cycle. The maximum they sector (2) which uses the PPP model based on the joint facility and transfer it to the private sector - to save the life cycle at the level of 30-40%.

In turn, the Russian practice is characterized by diametrically opposite situation and the dominance of models based on the market contracting of institutionally-integrated model.

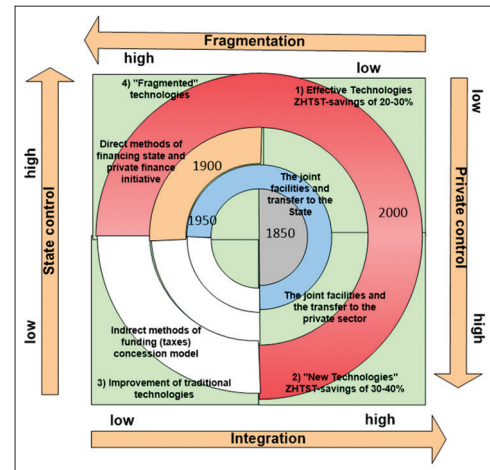
Among the mechanisms of the model contract the Russian practice of interaction of the state and municipal educational institutions and private sector entities defined in the following areas:

- Joint projects with universities on research and experimental development, the creation of a research center;
- Support for university infrastructure and modernization projects - support for material and technical base of universities, holding of restoration and repair work;
- Construction of new property for educational institutions by entering into investment contracts with public authorities;
- Co-financing of educational institutions of the state and private sector entities;
- Grant and scholarship support for students and teachers of public educational institutions from the business;
- Preferential loans and education loans;
- Participation of representatives of the private sector in the development of training and methodological support in the educational process, head of the department;

**Figure 2:** Classification of models of public-private partnerships of regional socio-economic systems (Novikov, 2009)



**Figure 3:** The evolution of models of public-private partnerships (Miller, 2000)



- Conferences and seminars;
- The organization of practice for students of educational institutions in the production of the partner company.

The practice of implementation of the institutional mechanisms of the model is limited to isolated examples in the following areas:

- The establishment of private sector entities to charitable funds (in the form of non-profit organizations);
- The creation of research centers in the form of legal entities involving public universities and private sector actors;
- The opening of business schools, founded by private actors - individuals and legal entities;
- The establishment of corporate universities in the form of non-commercial partnerships between the public university and private sector entities.

## 4. CONCLUSIONS

Among the models of PPP in the form of social interaction are several examples of the formation of school boards for

educational institutions, in which representatives of the private sector (in this case these tips can have considerable powers only in the private educational institutions). There are a few examples of the formation of school boards for educational institutions, in which representatives of the private sector (in this case these tips can have considerable powers only in the private educational institutions).

However, at the moment, the potential of PPPs in education is not used to the full, as evidenced by a minor amount of PPP projects as well as educational institutions that are actively cooperating with the private sector. In addition, almost no developed mechanisms aimed at improving the efficiency of asset management in education.

This situation is caused primarily by the presence of a number of problems and constraints to attract private-sector actors in the field of vocational training on the mutually beneficial partnership for both conditions, among which are the most common:

- Imperfection of the legislation, which leads to a lack of clearly defined property rights for the PPP, which reduces the efficiency of the delegation of property rights, responsibilities and risks between the parties of PPP in education;
- Institutional unwillingness of the owner (state and municipalities) to form on the basis of the balance of economic interests of the new infrastructure of educational institutions;
- Educational institutions poorly study the professional features of the business do not always seek to maintain direct contacts with employers, involve employers in the management of educational institutions to know their staffing requirements and training methods, organize practical training, and in the future employment of graduates, tailored to specific companies;
- Unwillingness of businesses to meet educational institutions, as high risks of investing in capital-intensive facilities of education in the absence of guarantees of the state, lack of tax incentives (educational activities companies are taxed on a par with commercial activities); business is the development of cost-effective systems of internal corporate education and training, the creation of businesses based departments in some universities, corporate universities;
- Absence of a system of professional standards, which should be the basis for the improvement of vocational education and the creation of educational standards to meet the requirements to the level of qualifications and competences by occupation imposed by employers and the labor market;
- Lack of a modern national system of qualifications to ensure transparency, comparability, comparability and recognition of qualifications, diplomas and certificates of education and training;
- Private companies are not allowed in one of the founders of professional educational institutions of primary, secondary and higher education, resource and educational centers, which does not understand the real value of specific education for employers to make effective business involvement in education management, to attract additional funds and increase the participation of representatives of business directly in the educational process and examination committees of educational institutions;
- Does not create a public, objective system of evaluation of public and professional educational institutions with the active participation of the business with a professional expert community.

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## **Approaches to the Development of Endowment Funds in Russia as an Instrument of Mixed Financing of the Social Sphere**

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### **ABSTRACT**

In the context of budgetary constraints, the state educational institutions of vocational education are forced to seek investment resources to support their activities and compete with each other in the market, developing their competitive advantages. The article notes that one of the effective financial and economic institutions that ensure stability in financing producers of educational services is the endowment fund. Status of the Russian financial and economic system at the present stage of the global economic crisis, characterized by vague economic sphere, primitive and contradictory nature of the transformation processes, determines the need for reorganization of the systems and the management of financial resources of the enterprise. Significantly increases the importance of financial stability as a basic factor of their formation in the market and further development of interethnic value.

**Keywords:** Financial Institutions, Investment Resources, Investment Funds

**JEL Classifications:** G2, G31, H4

### **1. INTRODUCTION**

Practice has shown that the constant financial Russian companies focused on adapting to the challenging market conditions of managing, identifying, and optimal application of its competitive advantages in different types of market, increasing its market value. We note a significant part of Russian companies is currently in crisis, it is not so much a lack of financial resources, which is the object of our study, but with a low level of financial management and the absence of reasoned financial strategies. The current state of management of financial resources prevents prospective businesses promote reforms in the Russian Federation; it has a negative impact on all branches of the Russian financial system and its economic potential. In this context, the task of the current stage of development of the Russian economy dictates specific requirements for the financial recovery of the crisis enterprises. Priority is the problem of developing strategies and tools for financial recovery of the crisis

enterprises. The solution to this problem urgently requires the deepening of theoretical research on the scientific use of financial resources of the enterprise, their accumulation and multiplication. To provide innovative financial growth opportunities should involve mechanisms of accumulation of financial resources of the enterprise at all local, regional and national level of the Russian economy.

### **2. RESEARCH METHODOLOGY**

Theoretical and methodological basis of the study are the works of local and foreign authors, dealing with matters of the theory of endowment funds and mixed financing instruments.

Work is executed with the use of modern theories of economic and institutional analysis. When doing research methods were used utility theory, game, probability modeling of contractual relations, program-oriented approach.

### 3. MAIN PART

First of all, the relevance of the study mentioned above shows that, despite the frequent use of the concept of “financial resources,” not its common interpretation, allowing content and specifics of this category. Referring to Table 1, which gives a clear view, the semantic content of the “financial resources” from the perspective of a few academic economists.

Identifying the nature and content of categorical funds, principal assumptions of which in our opinion should be based on the definition of the financial resources are as follows: (1) The financial resources are the original concept of the basic categories of “finance;” (2) the essential nature of basic category involves judgments belonging to the distribution, value processes; (3) resource is analyzed from the perspective of the potentiality of his engagement and target oriented.

The study should identify the author’s interpretation of the definition of “financial resources” as current and potential means that, if necessary, may be available, accepted and used by enterprises as signs distributed cost to maintain the desired proportions operation.

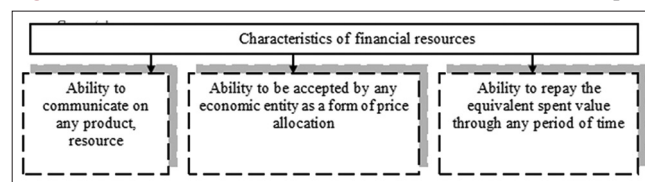
By categorization of the financial resources necessary to carry such as (Figure 1): (1) The ability to be accepted by any economic entity as a form of distributed value; (2) the ability to communicate on any product, resource; (3) the ability to repay the equivalent spent value through any period of time.

We have identified the main sources of financial resources in the process of functioning of the enterprise:

1. The main source of financial resources of the enterprise is determined by the proceeds from the sale of goods (works, services) related to the statutory activities of the enterprise. Maximizing revenues from sales of products/services - one of the main conditions for the growth of financial resources of the enterprise
2. One of the activities the company is determined implementation of the property when the moral (and sometimes physically) obsolete equipment (equipment) and other property sold at residual value, sold stocks of raw materials
3. In the course of the main activities of the enterprise not only receive revenue from the sale, but also non-operating income
4. In the present conditions in the XX. of the financial resources of the enterprise is involved due to its participation in the financial market as a borrower and issuer. Note that the basic values of the financial market - the empowerment of economic agents in preference of the sources of financial resources.

Next, we should mention that the study of the financial and economic nature of the category of “financial resources” (Levchaev, 2007), possible to prove cause-and-effect relationship of their operation, expressed in action the following basic laws.

**Figure 1:** Characteristics of the financial resources of the enterprise



**Table 1: The modern interpretation of the concept of “financial resources”**

Author of treatment	Contents of treatment	The main criterion
Abalkin, 2001	“Part of the economic resources, which is a means of monetary and fiscal systems, which are used for the smooth functioning and development of the economy”	Financial and credit system
Raizberg, 2010	“The combination of all types of funds, financial assets held by the business entity at its disposal. Financial resources are the result of the interaction of income and expenditure, the distribution of funds”	Asset value
Borisov, 2006	“The combination of all types of funds, financial assets at the disposal of the economic entity. The result of the interaction of income and expenditure, the distribution of funds”	
Zolotorogov, 2004	“Monetary income, accumulation and income at the disposal of a business entity and intended to meet the financial obligations of the costs of expanded reproduction, economic stimulation and satisfaction of social and other needs of working”	Monetary category
Rodionova, 2003	“(1) Net revenues and income at the disposal of a business entity and intended to meet the financial obligations of the costs of expanded reproduction and economic incentives employed; (2) cash income, savings and income generated in the hands of business entities and the state and intended for the purposes of expanded reproduction, material incentives for working, meeting social needs, the needs of defense and public administration. Are the material carriers of financial relations”	
Kolchina, 2001	“The totality of their own cash income and revenues from outside (borrowed and borrowed funds) designed to meet the financial obligations of the enterprise, financing of current costs and the costs associated with the expansion of production”	Property rights
Pavlova, 2003	“Own sources of financing reproduction, remaining at the disposal of the company after the current payment obligations and the estimated”	
Balabanov, 2010	“The funds at the disposal of the economic entity. Can guide the development of production, maintenance and development of non-production sphere, consumption and education allowance”	
Blank, 2004	“The totality of accumulated equity and debt in cash and cash equivalents in the form of trust fund money meant for his business activities in the coming period”	



1. Reduce the marginal utility. In the limit of how satisfied the need for financial resources, the degree of saturation in them is growing, and the size of the utility of each additional unit decreases.
2. Budgetary constraints. Unilateralism sources of resources will lead to the fact that the company is obliged to make the appropriate choice in favor of a particular combination, maximizing thus obtain useful.
3. Alternative probability and the best application. The probability of a combination of diverse sources of funding suggests that diverse combination can be achieved given the quantity of output (services). There is an option, and optimal use.
4. Diminishing marginal productivity. The increase in the number of attached financial resources and the immutability of the other components of the manufacturing process, will be accompanied by a decrease in the return on incremental factor. With pull-additional financial resources necessary to ensure that their price is found to be higher marginal productivity.
5. Opportunity cost. Limited financial resources are a problem of their most profitable use, resulting in the presence of the costs of lost opportunities.
6. Increases costs. An increase in the volume of use of one type of financial resources will inevitably increase costs denominated amount of resources an alternative source, which leads to an increase in the cost of missed opportunities.
7. Economies of scale. When one-time increase in the use of factors of production is a process of growth of output in the same or greater degree. Under this law, the law of Chandler's economy (Yudanov, 2012) in the production scale of the enterprise, according to which the advantages of the largest forms of business entities based on the ability to realize the enormous financial costs, distributing them to the replicated products.

Economic efficiency in the use of financial resources creates the foundations of financial growth, which is a continuous extended reproduction of the financial resources of the enterprise.

Administer the financial resources of the enterprise by means of the financial mechanism, i.e. aggregate forms and methods of organization, planning and promote a coherent process of formation, development and use of financial resources. The elements of the financial mechanism are: Financial ratios; financial leverage; financial practices; legal; normative and information provision; organizational support.

The basic element of the hierarchical system of financial flows is determined by us to ensure organizational subsystem, which is determined by the extent of the tasks and the level of management of financial resources (and streams).

It is important to note the emerging virtuality financial resources of economic agents (Novikov and Tkacheva, 2012; Tkacheva, 2009). At the present stage of development of computer technologies and the internet - technology of fundamental importance in the management of financial resources of the enterprise is the extent

of the basic equipment and computer technologies of production. Priority in achieving success and sustainable competitive position owned enterprises with a high degree of computerization of its production, logistic sales activities, and relationships with suppliers, partners and customers.

Thus, we note that the characteristic of the immanent laws of functioning of the economic nature of the financial resources, contributing to a more complete identification of the categories studied, showing her in a number of basic categories and identifies specific ways to show causal relationships among the general economic concepts of financial management. Features of influence of economic laws stipulate both the functioning and purpose of the financial resources of the enterprise, and the impact of the most important environmental factors. Direct communication of financial resources of the enterprise with all the cycles of reproduction process involves their high potential activity and wide exposure opportunity on all aspects of management of enterprises. Financial resources are an important tool for economic incentives and control over the economy of the Russian Federation and its management.

It should be noted that in Russia, in terms of budget constraints public and private educational institutions of vocational education are forced to seek investment resources to support their activities and compete with each other in the market, developing their competitive advantages.

With the adoption of the Federal Law "On the order of formation and use of target capital-profit organizations" created legislative conditions of active development of the institution and the endowment in Russia. However, there is no provision in the Act on the expenditure of endowment (only allowed to use revenue from its investment) does not provide tax deductions to donors. It does not conform to international practice, which sets minimum standards for spending the endowment fund for the purpose of, for example, to prevent abuse of the fund with unlimited capacity due to non-taxable income from investments and incentives benefactors. Law "On procedure of formation and use of target capital-profit organizations" does not allow to replenish the endowment fund at the expense of NGOs, which its owner, which deprives the educational institutions, successfully engaged in business activity, the possibility of receiving tax-free income from passive investments earned money.

The proposed new legislative and policy documents approach actually means abandonment of the total public funding of education and the transition to a multi-channel system investment. This is recorded in the documents of the socio-economic development of Russia: "Russian society has to go on the mode of content of the budget of its education system to the regime to invest in it."

Formation of the tax base of education and extra-budgetary funds involves the creation of enabling conditions for education in the non-budgetary sources: Tax incentives for organizations to direct their funds to the education sector in the form of co-financing and tuition, and in the form of charitable donations.

Stressing the above, it should be said that the endowment - a donation or specially assembled target fee (attracting new non-state resources to fund social projects, including the education sector), sometimes supplemented by their own savings educational organization. Under the endowment fund - meant the trust fund established on the basis of cash, securities and other assets, the company formed to produce investment income, which will be used to maintain the organization. The assets invested in the Fund shall be inviolable, i.e., not available for spending (Thompson, 2015).

Created by donations capital is invested in the stock market and obtained from the management of the proceeds go to the needs of the recipient's contributions. Charity in this case is not a single stock. Model endowment funds relates to investment forms of public-private partnerships in education.

As a rule, the endowment fund is formed and updated over the years. In Western countries - is indivisible investment asset in the form of money, securities and possibly real estate and other assets transferred to non-profit organizations, legal entities or individuals as a charity, and then placed in financial institutions in the form of equity investments, securities or real estate, so that the educational organization could receive an annual income in the form of interest, rents or profits without affecting the body core capital (Abankina, 2005). The most developed system of endowment funds in the US, where there are more than 800 such funds, the largest of which are reflected in the Table 2.

The share of profits from the use of endowment funds in the financing of educational activities of universities from 20% to 40%, with most of the funds endowments in the US comes from the alumni of the institution (Korobkin, 2003).

Endowment funds are non-profit organizations formed when the founder of a person transfers property NGO funds or property. In turn, these funds should subsequently be used to achieve the goals of the organization either through direct spending or by spending income arising from the management of these funds (for example, placing them in financial assets, income). Russian analogue of the financial mechanism is precisely the target capital.

So, as amended by Law No 275-FZ under the target capital is understood formed by donations in cash (in rubles or foreign

currency), part of the assets of NGOs passed a non-profit organization in the asset management company to generate revenues used to finance share the activities of the NGOs or other NGOs. Income from trust management of property constituting target capital, as well as part of the property constituting target capital owners receive the endowment.

The objectives are the formation of socially significant and determine the direction of the use of the income endowment funds: Education, science, health, culture, physical culture and sports (except professional sports), art, archives, social assistance (support).

One non-profit organization can generate several endowments but different objectives targeted capital formed separately. At the same time the target capital is formed without regard to the particular NGOs and by activity. Despite the fact that the very purpose of the use of target capital and income, strictly limited to the legal framework, but the choice of the specific purpose for a specific target capital can be defined as the donor (donor) and NGOs. Endowment has symptoms of urgency and a monetary form. The minimum amount of capital that must be formed within 1 year - 3 million rubles. During the next 2 months from the date on which the amount of donations will be 3 million rubles, the NGO is obliged to transfer the funds in trust management company. If the capital for the year in the specified minimum amount will not be formed, the available funds should be returned to the donor if the donation agreement provides otherwise or if the funds received by way of inheritance.

According to the law, the recipients of funds (universities, hospitals, museums and other non-profit organizations) are not eligible to accumulate their own fund, and are obliged to organize a separate legal entity with a special account to which you want to transfer money philanthropists. Other assets (real estate, art and so on. N.) be the property endowment cannot.

Trust capital endowment funds can be formed only in the form of cash and for cash, this limitation is primarily dictated by considerations of "transparency" and control at all stages of formation and use of target capital, as well as significant tax incentives provided by the Law number 276-FZ. The minimum period for which the formed target capital - 10 years, ruled out the possibility of forming endowment for an indefinite term or its extension. On expiry of the target capital shall be disbanding. The assets, which formed the endowment fund are not spent according to the law under any circumstances, for the implementation of projects of the organization are only the investment income. Investing can be engaged in the management company, selected in the competition.

We distinguish two possible formation of target capital. The first option involves the ownership of the target capital of the non-profit organization that is the recipient of both income from his investment. New or existing NGO creates endowment "inside," and the resulting income from specific capital expenditures for the purposes in which it is formed, and is the sole recipient of the income, which is further reflected in Figure 2.

**Table 2: The largest US endowment funds (Ed.gov, 2015)**

The name of the university	The size of the endowment (thousands of dollars)
Harvard University (Cambridge, Mass.)	28,915,706
Yale University (New Haven, Conn.)	18,030,600
Stanford University (Stanford, Calif.)	14,084,676
Univ. of Texas System Administration (Austin, Tex.)	13,234,848
Massachusetts Institute of Technology (Cambridge)	13,044,900
Princeton University (Princeton, N.J.)	8,368,066
Columbia University (New York, N.Y.)	28,915,706
Univ. of Michigan (Ann Arbor, Mich.)	14,084,676

On the administrative expenses associated with the formation of target capital NGOs entitled to spend no more than 15% of the income from the trust management, or no more than 10% of the targeted capital employed for the year.

It should be noted that a direct restriction on associations, unions, non-profit partnerships, consumer cooperatives - these organizations may not form the property of the target capital, but is entitled to be beneficiaries of income from the investment of the endowment received from the target funds management capital. With regard to public corporations and political parties operate still more restrictive - these organizations are not entitled to any form of ownership in the target capital or receive income from the investment of the endowment.

The second option assumes that the owner of the endowment is a specialized non-profit organization in the form of a fund, which is created and operated solely for the purpose of generating, transmitting in the management and distribution of income from the investment of the endowment between other non-profit organizations as the recipients of income from the use of target capital (Figure 3).

Investment management strategy selects the target capital management company. Possible investment instruments:

- RF government securities, government securities of subjects of the Russian Federation, Russian bonds of other issuers;
- Deposits in rubles and foreign currency from credit institutions;
- Investment units FTRA property;

- Investment units FTRA art and antiques;
- Instruments with guaranteed returns.

Specificity of formation of endowments (endowment) is reflected in the Table 3.

The main features of the endowment are as follows:

Firstly, the target capital is the “splitting” of the property (or to be owned by the NGO or NGOs as not only its owner.

Secondly, every endowment is tied to the “specific” objectives. One non-profit organization can generate several endowments but different objectives targeted capital formed separately.

Third, the target capital is formed only by donations of funds or by receiving cash at will.

Fourthly, the target capital transferred in trust management company (commercial organization having a license for activity on management of securities and (or) license for management of investment funds, mutual funds and private pension funds).

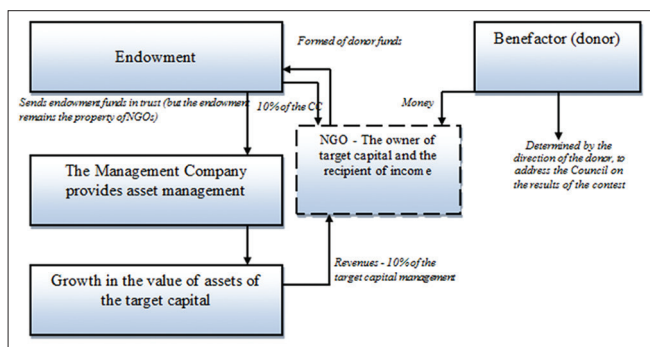
Fifth, the revenue from the control can be used only for the purposes defined in the formation of target capital.

Sixth, the part of the target capital is fixed (only for the purposes laid down by law), at the same time part of the target capital can be spent on the needs of NGOs, but only at a rate not exceeding 10% of the book value of the target capital).

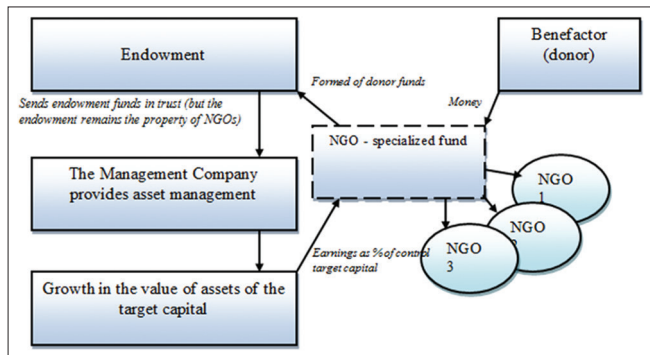
It may be noted that the model of endowment funds has its advantages, namely, creating an opportunity for long-term planning and development of the social sphere (the mechanism is adequate to the overall stability of the situation in the country); useful for large companies that tend to strategic business planning and investment in the social sphere; is transparent and provides a guarantee for donors directed funds; It provides an opportunity for NGOs to change the approach to the implementation of social projects, learn to earn money and not just play the role of asylum; It creates an opportunity to accumulate funds for charitable purposes, which makes it attractive for medium and small companies.

However, the mechanisms inherent Endowment have their limitations. On January 1, 2007, simultaneously with the entry into force of the target capital, the Tax Code and the amendments entered into force, according to which the income derived by non-profit organizations from the endowment is not subject to income

**Figure 2:** NGO and the owner is the only recipient of the income endowment



**Figure 3:** NGO dedicated fund



**Table 3: Specificity of formation of endowments**

Stable characteristics	Unstable characteristics
The objectives of formation	The amount of target capital
Real estate/consumable endowment	Investment strategy
Term formation	Management company
Recipients of income (as directed by the donor, to address the council on the results of the contest)	Terms of the contract of trust management
The composition of donors (one or more/open-ended)	Target selection



tax. However, the income is exempt from tax only on condition that it will be used exclusively for the purposes defined by the Law on the target capital: Education, science, health, culture, physical culture and sports (except professional sports), art, archives, social assistance (support), as well as, in part to finance the administrative expenses associated with the formation of the target capital.

At the same time it should be noted major differences in the mechanism of action of endowment funds in the Russian Federation in connection with the action of the Federal Law “On the order of formation and use of the endowment of NGOs (Table 4).”

Thus, the ability to use the tax benefits even non-profit organizations, in this case significantly limited, as for the donors (that is, commercial organizations and individuals), no additional tax preferences they have. For commercial organizations, donations to the formation of target capital do not reduce the taxable profit.

Despite the fact that the current endowment funds in the Russian sphere of education can be implemented through the Charitable Foundation (a non-profit organization), the establishment of such funds did not become widespread due to the adverse organizational and legal status and tax treatment in relation to charities.

#### 4. CONCLUSIONS

The Russian Federation is not widespread practice of using endowment funds, not only because it is a new form of public-private partnership in education, but due to the fact that the existing foundations must adapt to the new model and taking into account the financial crisis and taking into account patronage tradition of charity.

The formation of the minimal size of the resource capital of 3 millions. P., Russian law set aside two weeks. The University before transferring resource capital management company has no right to dispose of it. Based on the study of foreign experience of formation of endowment funds and their application to improve efficiency, we propose:

1. Place in specific capital budget allocations, in this context, highlight the designated target capital has purpose and is not assigned to the target capital - and future managers of the organization which are not specified, as determined by the established procedure on the basis of the contract.

**Table 4: Changes in the incentive mechanism of endowment funds (endowment)**

Participant	Until 1 January 2007	After January 1, 2007
The beneficiary (recipient of donations)	Pay income tax on the amount of donations	Do not pay income tax on the amount of investment income from management
Endowment Fund	Pay income tax on the amount of donations	Do not pay income tax on the amount of investment income from management
Donor	No concessions on income tax/tax on personal income	No concessions on income tax/tax on personal income

2. Enter the tax breaks and incentives for organizations - donors from business organizations to encourage investment in education. Enter regressive scale of taxation for individuals who have received income in the form of tuition fees; as well as the payment of taxes on deferred payment of tax for a certain period of time.
3. Expand the list of possible applications of the target capital, to increase the efficiency of the management company.

Considering the problem of attracting businesses to invest in education by establishing an endowment fund endowment, we note that the interest in forming such endowment funds can be caused by two factors. The first - is the realization of its entrepreneurs promotional purposes and PR-campaigns, the second - is interested in the preparation of competent professionals. We believe that the initiative should be primarily universities, namely, actively promotes the idea of the organization of the Endowment Fund, to organize joint meetings of the Chamber of Commerce and business organizations, and others. Thus, it is necessary to create an organizational and economic model of partnership that spent target capital return to quality results in the area in which they were invested.

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## **Research in Action Integrated Marketing Communications as the Elements of Information and Virtualization Market Relations**

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### **ABSTRACT**

With the growing role of marketing in economic activity has increased the role of process management implementation and evaluation of marketing communication efficiency of the entire process of implementation of marketing communications. Formation and development of effective marketing communications with customers are key success factors for production and trade company. Request a market economy require producers to find new directions for the implementation of marketing channels "of communication" with customers, implementation of innovative ways of bringing the finished product to the end user. We note that at the moment there are a number of research and development in the field of theoretical and practical questions of management of marketing communications. One of the main types of work representative on trade marketing in the marketing communication is a set of activities (means and methods of information) in finding, training and adaptation of marketing information about the market, about the external and internal marketing environment for further implementation of communication tools and techniques to communicate with the intermediate and/or end user of the target market, according to the manufacturing company marketing objectives.

**Keywords:** Marketing Communications, Information Economy, Market Relations

**JEL Classifications:** A11, M1, D83

### **1. INTRODUCTION**

Socio-economic impact of integrated marketing communications (IMC) forms a categorical basis, heuristic which allows to evaluate both socio-personal and investment - economic priorities of the communication activities of value, sales (including network) companies to streamline and guide personal and social formation of the vectors. Socio-economic benefits of IMC can be interpreted as the estimated category performance of their functional actions implemented in the system of calculation and analytical indicators by which commensurate expenditure on marketing communications and benefiting from the effect, while taking into account the important social aspects of the formation of marketing and communication technologies, implemented on the basis of an alternative. This causes the value of sustainable socio-economic factors in the development and implementation of IMC (marketing,

PR, event-marketing and other social tools of communication) not only improves and prolongs the existence of the brand, but also activates the process to meet the diverse needs of consumers.

It should be noted that the cumulative effect of IMC more "immaterial," the results of the efforts of marketers as a prestige brand, sometimes sold artificial unique selling proposition, PR-formed company's reputation has an effect that is manifested through such items of information and the virtual economy as electronic account agreements reached between the partners, suppliers, competitors, often in virtual space, in different territories (continents). Concretize the fact, at times, certain partners, suppliers; network companies are not parties to see each other ever.

The study is to address the macroeconomic impact of the information and the virtual economy. Information and virtual

economic space formed and is presented to the public as a further economic practice-oriented computer environment. The study indicated the specification shows that the very fact of the downturn of the real economy under the influence of the flight of people in the Internet-space does not have to wait. The statement that working time has moved from car manufacturing to the production internet-sites, banner advertising and avatars, means nothing to the general level of social and economic life of society. We cannot accept that change the scale and scope of needs, often caused artificially (economists - theorists argue that in the XXI century. 80% of the needs invented). The correct calculation will show, in fact, per capita income will grow multiple times (Novikov and Shershunova, 2012; Walters, 2014).

## 2. RESEARCH METHODOLOGY

Instrumentation and methodical research unit formed in the context of systematic functional and analytical approaches. This study used such techniques as the analysis of the marketing environment, factor and strategic analysis procedures of expert assessments, methods monographic surveys, economic and statistical groupings. The idea of the study involves the following tasks:

- To determine the ways and methods of implementation of elements of the IMC production companies;
- Analyze feedback technology manufacturing companies in the formation of effective IMC.

Investigations of marketing communications in production and trading companies of FMCG market is reflected in the works of such authors as Jobs, Dion, Liker, Mazilkina, Shane, Yamaguchi.

However, it should be recognized that the development of practical implementation of the directions of the IMC production and trading companies in the FMCG market are still poorly understood. Despite the variety of studies on the development of methodological approaches and technologies IMC control, the degree of scientific problem elaboration assess the socio-economic efficiency of the IMC cannot be considered sufficient.

## 3. MAIN PART

Noting the above, you need to show some of the characteristics of IMC, which are inherent to them as a result of the implementation of the latest in information and virtual economy (Gorny, 2007):

1. Immateriality, the reduction relative to their semiotic manifestations (i.e., to the texts in the broadest sense);
2. Anonymous, at least the possibility of such - but anonymous in this case should not be understood as the absence of a name, but an arbitrary connection between the "physical" and a virtual company;
3. Enhanced identification, the freedom to grant a virtual company by any set of characteristics;
4. The multidimensional nature, the ability to have a number of participants of virtual relationships simultaneously or sequentially (Shkurkin et al., 2015);
5. Automation, the ability to completely or partially simulate the activity of a virtual company and its management using

a computer program (that connects the virtual company with artificial intelligence and robotics).

Singling out the marked characteristics, it should be said that the destructive things in the context of the economy towards becoming a design in the context of information and virtual economy. The real economy has maintained a Russian perspective always be catching up, the virtual economy provides an opportunity to the public policy leadership. Both identified the problem, the prospects for large-scale require activation and a clear orientation of the resource base, and all the effort. History of the economic crisis and the formation indicates that at the time when the topical aspects of accumulation, regroup and revitalize the capital, interventionist and protectionist economic policies promoted economic growth more than either laissez-faire, which has the greatest impact in periods of expansion capital. And because the neo-liberal economic policies of privatization and deregulation is not able to serve as a productive tool "accelerated virtualization." An example of the virtualization of economic business relations is the chain: Trading company - the distributor - sales agent - point of sale - the consumer.

Presented chain of agents of the real economy is essentially a mirror image of her work in the virtual economy: Internet-space, computer accounting system (1C), on-line orders on the formation (via the Palm), order picking, parties, and product variations of its volumes.

The modern model of moving goods on the market is based on a system of virtual interaction between the real trading company now mediator in the region - distributor. As a rule, the company is a manufacturer and distributor is located away from each other, as well as outside the region is a logistics company whose work is carried out by means of internet-technologies (e-mail), as well as internal servers and programs.

Within the framework of the regional economic system the process of acquiring goods is carried out by means of the business - the company's partner relationships manufacturer and distributor of goods, selling goods at a given territorial area.

The function of the manufacturer in the framework of the distributor is to form streamlined delivery of goods from the factory to the regions and the active promotion of the final consumer:

1. Preparation of documentation for the product it licenses and the declaration of conformity of quality;
2. Delivery of the goods from the factory to the distributor using the logistic company or own transport forces;
3. The formation of the state of the agents of the company, funding for their training;
4. The formation of shares for the end user, as well as the material basis for the implementation of activities in retail outlets (Novikov et al., 2015);
5. The work of marketing structures in the development POSm materials (posters, price tags, shelf-talkers, wobblers, banner ads, and other Internet sites);
6. Preparation of marketing agreements for key customers in order to increase sales in the point of sale, the preferential

placement on shelves and placing goods on the additional points of sale.

Options distributor mainly consists in promoting a product manufacturer in the Krasnodar Territory, region:

1. Promotion of products under the trademark of the manufacturer’s company, taking into account the ethics of the company, its basic principles and mission;
2. The content of the state sales agents, payment of their work and the formation of the tasks and functions of the state;
3. Maintaining operation of the active customer base, operating time new customers to increase sales and attract additional revenue;
4. The formation of shares to retail chains in order to increase sales of goods from point of sale, as well as shares for the end user, for his involvement;
5. Quality of goods paperwork (invoices on the movement of goods, return invoices, bills of lading, warrants, etc.).

Russia has actively formed commercial enterprises. There is a qualitative change in the principles and structure of retail trade, retail chains successfully displace independent stores. In conditions of strict competition and awareness of buyers own brands of retail grocery retail chains are an effective tool for the promotion of goods (Nozdreva and Grechkov, 2003). Own brands have become an effective marketing tool that can strengthen customer loyalty, provide them with exclusive products and ultimately increase profits of retail chains.

Attach great importance to marketers develop brand goods, which identifies the specific vendor products and distinguishes them from competitors’ products. In this case, you must address three issues: Under whose trademark is produced goods (trade name of the company - the manufacturer, brand agent, or partial production); a quality brand product; whether all the goods manufactured by the company, assigned brand name.

The term brand - used to identify products or services of one or more companies and the allocation of their competitors (Vasiliev and Trofimenko, 2007; Gambetti et al., 2015). Brand cannot bring her performance to the consumer, without the goods referred to it, allows you to build an associative number of consumer goods. The definition implies such a notion as “brand.” No brand will not exist in the mind of the consumer understanding of the product; they will simply impersonal companies, products. Brand - a common relationship between the product and the consumer (Temporal, 2003; Yang, 2015).

Synthetic instrument of marketing communications, branding such as: Advertising, PR, direct management. Branding, according to previous research, - a commodity-sign the policy and management of the image, with the integrated use of strategies and technologies marketing and management (Vasiliev and Trofimenko, 2007). The problem to be solved by brand, in the case where branding - is the process of creation and development of the brand, showing the difference of the product from goods - competitors, and thus its separation from the masses, and the simplification of its choice.

System brand recognition at the expense of the company logo and specific packaging design, it Extractability abundance of competitors in the retail outlet. In terms of marketing the packaging plays a very important function in the definition of commercial policy. Packing accumulates in the necessary volume and forms of the work product and facilitate its storage, transport, use and consumer channels (Hanzelka and Chalupský, 2014; Kobersy et al., 2015). The package contains a number of functions: Provides storage and protection of the goods from the effects of the environment plays an informational function, presenting consumers with basic information about the properties of the product and its quality. In addition, the packaging is communication, advertising, stimulating sales value. Changing the packaging may improve sales.

Promotion of the brand in the modern trade is carried out in several distribution channels, such as retail network, network companies (hypermarkets), specialized agencies, government agencies, trade fairs, direct marketing.

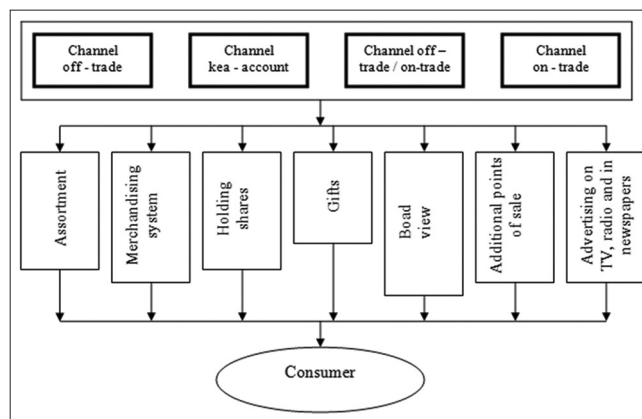
Channels of distribution of alcoholic beverages are primarily characterized by the volume of products sold, the area of the room, belonging to a specific market segment. The main channel of distribution of beer products is a retail chain.

Retail - a merchandise trade individually or in small quantities for personal, non-commercial use by the end user (Shestakov, 2000).

The retail channel is presented, first of all shops, kiosks, pavilions, a small supermarket, shops and self-service are a function of consumer services for the promotion of food products, household products and essentials. The modern store format - self-service, where a wide range of products, covering an area of 400 m<sup>2</sup> and more, and offers additional services: ATM, parking, cafes, devices for printing photos and other.

The dynamic development of the beer market has led to the development of Russia’s specialized areas allocated to certain structural units; such stores are able to meet the demands of consumers: A guarantee of quality, a wide range of professional consulting services (Figure 1).

**Figure 1:** Distribution channels beer products with promotional activities



Modern Russian market demands active development of retail chains, sales promotion for the different distribution channels that will attract different segments of the population, contributes to the implementation of related products, and provide consumers with a wide choice. The retail channel - off - trade is the promotion of the company's products, with the help of established relationships with retail outlets, such as kiosks, pavilions, shops, open markets. The main indicators in the segmentation of retail outlets serve as indicators such as floor area, major type of structure, methods of customer service, the number of banks, some products (Table 1).

Enacted a law "On state regulation of production and turnover of ethyl alcohol" regulates the sale of alcohol beverages, and prohibits the sale of alcoholic beverages, and alcoholic liquor in retail outlets such as: Kiosks, pavilions from 2012.

The modern trade channel network outlets - kea account includes retail outlets such as hypermarkets, supermarkets, mini markets and sub-distributors. The main features of regulating the operation of this channel are excellent characteristics of the channel off - trade and the on - trade, such as floor area, number of offices, the range of goods sold from the outlet (Table 2).

The main features of the channel kea account are - self-service. This segment of the retail outlets referred to the modern trade. With the fastest growing number of network outlets such as hypermarkets, supermarkets, modern trade is losing its position common trade channel off - trade. Typically, network outlets offer customers products at reduced prices and variety of events, and a wide range of products and improved service quality.

Ordering channel kea - account is carried out by means of 1C company representative directly outlet, and sending data =

used with the Internet distributor, which also is processed in the department of CRM (department operating systems).

Sale of alcoholic beverages is allowed in network outlets licensed. Sale of beer is allowed at any time. Only in 2013 will come into force a law regulating the sale of beer at night, prohibits the sale of a 23-00 to 07-00. In consideration of the Federation Council amendment to the law "on state regulation of production and turnover of ethyl alcohol," which regulates equate to drink alcoholic beverages, any strength 0.5% fortress (except kvass, kefir, etc.), which will be taken into consideration in 2013.

Selling low-alcohol products (beer - more than 5% strength) allowed in retail outlets such as kiosks, pavilions, only within the channel on - trade, i.e., the points of immediate consumption. These outlets must be equipped with a Table 2 for drinking beverages, drinks and takeaway beyond the outlet is prohibited.

The alternative sales channel is a channel - on - trade. A channel is a movement of goods across the segment HORECA - hotel, restaurant, and cafe.

The operation of the channel - on - trade at the expense of product promotion to VIP clients of the company, such clients are:

- Bulking outlets, bringing a greater volume of revenue;
- Or branding outlets, which create the image of the company, its positive reputation.

When the administrative fragmentation persists single corporate identity the company's products. Consumers choose the product that is purchased before or the one which learned from advertising, from friends, on the advice of friends. In addition, for recognition of the goods on the market use trademarks - trademarks.

**Table 1: Indicators segmentation of retail outlets channel off - trade**

Indicators	Kiosk	Pavilion	Store	Open markets
Area	-	-	300 m <sup>2</sup>	Collection of various segments of the retail outlets in the same area
Capital structure	Permanent type of structure	Permanent type of structure	Capital type of structure	Administration and fenced territory
The method of customer service	Through the window	Entrance for customers	Counter	General counter
Number of offices	-	-	-	-
Assortment of goods	Limited	Switching range	Predominantly food	Mixed
A key feature	Sale through a window	Permanent structures and the entrance for customers	Capital structure and the type of customer service	General counter

**Table 2: Indicators segmentation of retail outlets channel key - account**

Indicators	Hypermarket	Supermarket	Minimarket	Sub distributors
Area	2501 m <sup>2</sup>	From 300 m <sup>2</sup> to 2500 m <sup>2</sup>	<300 m <sup>2</sup>	Wholesale company
Self-service shop	+	+	+	+
Example outlet	Auchan, real	Crossroads (Perekrestok), the seventh continent (Sedmoy Kontinent)	Magnet (Magnit), Pyaterochka	Metro
Cashbox count	10 or more	3 or more	-	-
Assortment of goods	Food and non-food products	Food and non-food products	Food and non-food products	Food and non-food products
A key feature of segmentation	Area	Area	Area and type of service	Deliver goods to retail outlets



Distributor where the location is in a remote area by the manufacturer, in another region, or federal district. As a rule, manufacturer company has plants in several cities, the distributor buys goods from the manufacturer and it comes from the factory producer of all the cities. Distributor operates under license from the manufacturer, and promotes its interests in the regional market. However, the distributor can promote and product competition, and to represent its interests. As a rule, the distributor maximum effort to promote one manufacturer pays and promotes its brands; this is due primarily to the payments that are made by the company in relation to the distributor.

Sales agents take orders from outlets and using special equipment transfers them to the base. The means of transmission are pocket communicators, such as CAS, via the Internet - the connection to the server orders come distributor where operators are processed structure CRM, invoices are generated, and the order is then passed to the warehouse where the pallet is collected in and sent to the customer. The database contains the entire communicator client base sales agent, customer data, address their needs and events, which were attended by one or other point of sale.

The modern system of remote work with the point of sale has a number of features and functionality:

1. Contains the entire product range, the amount of packaging and flavor variety
2. Formation of the order for the point of sale;
3. Preparation of photo reporting point of sale;
4. The adjustments to the data for the point of sale, its location, legal name, needs, held shares;
5. The input of information about the range of point of sale, about activities carried out competitors;
6. Data file on the orders of the outlet for a long time.

All information contained in the database of the communicator, can pass through the synchronization and the Internet to be transmitted to the central server of the company, a distributor and be processed. You can also send data from the central server to the database device, affordable mobile communication system that supports CAS.

#### 4. CONCLUSION

Thus, summing up the note, the spread of information and virtual economy, virtual products, virtual companies, virtual money and allow provoke quickening economic transactions. This leads to the fact that computer technology has become the main means of economic activity and the environment. The virtual economy brings to life the commercialization of Internet-network, which is now carried out not only the exchange of business information, and the complete cycle of the transaction.

The systemic nature of the changes in social production, to determine the circumstances of the information economy, first of all, a large dynamic and uncertain external and internal environment of the organization, expressed in such important trends as the transition from mass production to the differentiation of products facing to the subjective satisfaction of consumers;

crisis of large corporations and the viability of small and medium businesses as agents of investment and sources of job creation; development of new methods of management (lean production); flexible organization of business and inter-company networks through cooperation and integration enterprises through the use of information technology and the Internet and others.

One of the main directions of improving the management of the organization, improve efficiency and quality, productivity and competitiveness in the virtual economy is a transition to new forms of functioning and development organizations - a virtual company, based on the principles of cooperation in the legal field independent.

With regard to enterprises, geographically distributed, and carrying out their activities in an integrated information space. The main advantages of virtual companies include the ability to select alternative ways of implementing the process of value creation (creation of the end product or service) through the use and resource management agent network based on modern information technologies and, as a consequence, increase the speed of response to market changes (changes in volume and timing of deliveries, price fluctuations, and others.), an increase in customer orders and increase competitiveness (Gorbulnov, 2006; Liao, 2014).

In virtual enterprises, we are studying the type of economy today are innovative team, which is important in the intellectual potential of employees, their professionalism, personality, responsibility and flexibility, ability to work effectively as a team. However, employment in the virtual enterprise is less stable. Also employees of virtual enterprises often identify themselves with ongoing projects, which lead to the transformation of the proportion of working time in the total time of the individual, and the negative effect of this is to increase the amount of stress in people involved in the virtual economy.

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# Formation and Development of the Integrated Marketing Communications in the Activities of Production and Trade Enterprises

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## ABSTRACT

Manufacturing companies in the market fast moving consumer goods market characterized by new approaches to the elements of the distribution of products. Today, there was a change of the functional structure model of distribution of goods from the production company (producer) to the production and retail outlets (the mediator) to a trading company (intermediary), and to the end user. Appears multi-channel distribution with the addition of updated participants merchandisers and representatives of trade marketing, which allows you to maximize the efforts of manufacturing companies in the field of demand generation, promotion and positive image of the production company from trading company - then the consumer to use all the possibilities of contact with the consumer, and switching his preference to competing products on the goods and be an exemplary substitute product supplier. The authors of the technique of evaluating the cost-effectiveness of measures for the implementation of integrated marketing communications (IMC); lighted the issue of functioning of the IMC of modern retail companies. With the author's position is considered the implementation of a new concept of IMC.

**Keywords:** Marketing Communications, Integrated Marketing, Virtual Economy

**JEL Classifications:** A11, F02, M1

## 1. INTRODUCTION

The complex of means and methods of integrated marketing communications (IMC) plays a significant role in the promotion of trade companies in different types of markets. As one of the most important activities of trading companies should consider the economic efficiency of IMC, which are aimed at ensuring sustainable and stable operation and diversify its activities trading companies. The problem of evaluating the economic efficiency of the IMC has received extensive discussion, both in the scientific community, and attention among the representatives of the business environment.

For trading companies is an important possession of the skill distribution of funds between the instruments of marketing

communications for the most positive result of the integration of the complex promotion of manufactured goods, the brand. Thus, the highest priority becomes the task of studying the evaluation of the economic efficiency of the complex IMC. For certain sectors of the economy needed their adaptive methods for evaluating the economic efficiency of the IMC, taking into account all aspects of the business processes, products and brand.

The basis of the study selected trading companies implementing business activity within the boundaries of the beer market as a global and national scale. World beer market is characterized by the high cost of marketing communications. This issue, together with the characteristics of modern beer market, requires the need to find opportunities to improve the cost-effective implementation of IMC.

## 2. RESEARCH METHODOLOGY

The object of the study is a set of production and trade companies operating in the market of fast moving consumer goods (FMCG). The subject of the study of social and economic relations between the participants of the IMC communicative interaction of manufacturing and trading company sells the finished product on the market FMCG.

Theoretical and methodological basis of the work were the works of domestic and foreign authors in the field of operation of the market FMCG, technology distribution, IMC, legislative and regulatory acts of state and international organizations in terms of marketing activities, articles in specialized journals, monographs, abstracts, periodicals production companies "British American Tobacco," "SUNInBev," "Brewery Moscow-Efes," "United Heineken Brewery," "Japan Tobacco International," "Reckitt Benckiser," "Philip Morris," "Procter and Gamble Distribution Company," "Henkel-PEMOS," "Unilever Rus," "Coca-Cola Export Corporation," "PepsiCo Holdings," "Nestle," "Danone," "Mars," "Hein," "Kraft," "Cadbury," "Anadolu Efes" and etc. The study used a systematic approach to the analysis of marketing processes and phenomena, empirical-statistical methods of integrated and comparative analysis, simulation modeling, forecasting and expertise.

## 3. MAIN PART

In Russia, actively forming trading companies. There is a qualitative change in the structure of retail trade; retail chains thanks to an aggressive strategy displace independent stores. In conditions of strict competition and awareness of buyers own brands of retail grocery retail chains are an effective tool for promoting products. Own brands have become an effective marketing tool that can strengthen customer loyalty, provide them with exclusive products and ultimately increase profits of retail chains.

The leader of the Russian market is "Baltika," which became in 2008 an international group "Carlsberg." According to official data, in 2009 its share in the Russian market amounted to 40%. Sales of "Baltika" in 2009 amounted to 41.7 million. Hectoliters of beer (ID-Marketing Research Company, 2015).

In second place in terms of production is the company of "SunInBev." In 2009, the production volume of "SunInBev" amounted to 16 563.3 thousand. Hectoliters, the company's share on the Russian market 15.2%. In 2010, production volumes of "SunInBev" declined slightly, while market share increased to 15.8% (ID-Marketing Research Company, 2015). Closes the three leaders of the company "Heineken," which accounts for about 13% of the market. In the Russian market of "Heineken" exists since 2002. The group consists of 10 breweries producing 28 brands of beer (ID-Marketing Research Company, 2015).

Analysis of the leading players in the market selected the Southern Federal District is possible to characterize the type of enterprise strategic competitive behavior. Evaluation of the three companies

(JSC "SunInBev," JSC "Heineken," JSC "Efes") was carried out on 12 parameters, the results are summarized in Table 1.

Most companies adhere to the strategy of concentrated marketing. They can have multiple brands of different price segments, while they are positioned in such a way that together do not cover the market as a whole, but only at its specialized parts of (Novikov and Novikova, 2012). The only exceptions are the two companies - the leaders of the beer market: The company JSC "baltic brewing group" company and JSC "SunInBev" applying differentiated marketing strategy, seeking to have a market share in each segment of the beer market.

But there is a fundamental difference. The company JSC "Baltic Brewing Group" is the trademark of "Baltika" focused on the widest range of consumers. The brand "Baltika" recognized "national brand" in 2009, losing thus never lead in the competition. Beer under this brand intended for various categories of consumers. Each room (sort of) the brand "Baltika" differ not just on alcohol content and composition, but presented differently, is designed for different segments of differing status and income. This is reflected in the design of the bottle (banks) and price.

In addition, other brands are available such as the "Parnassus," "Carlsberg" (prepared under the license and technology of the Danish company "Carlsberg," positioned for people aged 25-35 years, with an income above average), Leningrad (positioned as a low-cost high-quality beer for men 40 years of age and older with income "and below average"), as well as the brand "Arsenalnoye," "Don").

As for the brewer of "SunInBev," it is for each segment is developing a separate brand and apply different strategies for marketing-mix.

Competitive market environment characterized by the creation of an entirely new and unique products, technologies promoting the creation of the brand in the market. Implemented by finding cost-effective funding and at the same time effective ways to communicate with consumers and promote products under the brand of a trading company. Conditions for success communication strategies - knowledge of customer needs, openness, market information, communication initiative is a trading company.

The analysis of the beer market has allowed to identify the main defining trends of development, which are:

- Increased competition among trading companies-producers;
- Increasing demands of customers for the quality of the product and compliance with the price and quality of goods;
- Strengthening the brand value of a trading company;
- Consonance brands;
- Is constantly growing role of the points of sale, window dressing, shelf space, equipment companies;
- Increasing the activity of soft drinks consumption among the female population;
- Improving the culture of consumption of low-alcohol drinks (Karasik, 2012).



**Table 1: Characteristics of enterprises by type of strategic competitive conduct in the territory of the Southern Federal District**

Parameters	JSC “SunInBev” (%)	JSC “Heineken” (%)	JSC “Efes” (%)
Positioning in the channel Off-trade (retail chains)	Mass (66.6)*	Mass (66.6)	Mass (66.6)
Positioning in the channel On-trade (a network of immediate consumption)	Mass (100)	Specialized (66.6)	Mass (100)
The depth range (determined by the quantity of each type of product) (Raizberg, et al., 1999)	High	Low	High
The breadth of the range (defined by the number of product groups) (Raizberg, et al., 1999)	Advance in innovation	Flexibility	High performance
Communication with the customer (the correct position of the consumption of beer and a healthy lifestyle)	Strong (100)	Strong (66.6)	Strong (100)
Direct representation in network trading networks	Available (100)	Available (100)	Available (100)
Merchandising (degree of presence of the company’s staff in shopping malls)	Active (100)	Active (66.6)	Active (66.6)
Sales promotion (stocks, souvenirs)	High (100)	High (66.6)	High (100)
Print advertising (in the degree of availability of printed materials, special tags)	Mass (100)	Mass (100)	Mass (100)
PR (presentations, press conferences)	Average (66.6)	Average (66.6)	Average (66.6)
Packaging of goods (form, color, attractiveness, extractability, corporate identity)	Advance in innovation (100)	Adaptability to the special market (100)	Competitive (66.6)
Souvenirs	Strong (100)	Average (66.6)	Strong (100)

\*Note: The percentage of definition by experts to identify the presence of quantitative parameters, quantitative parameters are given for comparison of the three companies

To improve the efficiency of IMC author proposes to manage the process of implementation of IMC in the following sequence, are defined as:

- Definition of the target audience - the identification of its range of customers;
- Generating the message, based on the objectives of IMC;
- Execution of the marketing message, giving his presentation aimed at attraction and maximum flow informative messages;
- The choice of communication channel;
- Decoding messages purchaser - decoding information;
- Obtaining feedback from the consumer (feedback) (In connection, 2012).

Of great importance for the buyer plays a famous brand, it has the effect of trust, as well as the attention of potential consumers to the goods. Application Integration of marketing communications results in an increase of their efficiency (Medvedeva, 2011).

Brand recognition is carried out by the company logo and specific packaging design, it Extractability abundance of competitors in the retail outlet. The system of marketing packaging plays a very important function in the definition of commercial policy. Packing accumulates in the necessary volume and form of the work product and facilitate its storage, transport, use and consumer channels. The package contains a number of functions: Provides storage and protection of the goods from the effects of the environment plays an informational function, presenting consumers with basic information about the properties of the product and its quality (Dobrobabenko, 2001). In addition, the packaging is communication, advertising, stimulating sales value. Changing the packaging may improve sales.

The main feature of the brand is reflected on the label. Large, catchy label - is an advantage. Brand, usually accompanied by information about the type of beer. The words “bright,” “dark,” “amber” is not so much tell what color the drink is much talk

about the degree of toasted malt, which determines the taste and aroma of the beverage. Light beers - a dry, light and transparent. Dark beer - usually a sweet, dense, strong.

There is no doubt that the support of the brand in the first place is the packaging, which occupies an important place among the most important elements of marketing communications and in the transmission of information to a potential customer. Presentation of the package only as a protective element, it is replaced by property promote products and increase sales, thus increasing the company’s profits.

An element of marketing communications is a direct relationship between the promotion of products and product packaging, such a connection can be divided into several stages:

1. Advertising, which gives the consumer knowledge about the product, is in his interest, adjusts positive incline consumers to purchase. Packaging in the first step is important, because through it identifies the buyer purchase;
2. In the process of acquiring goods is packaging “sells” goods, plays the role of “silent seller,” the main objective of the package - to create a favorable brand image;
3. After the acquisition of goods packaging confirms the correct choice (Novikov and Oganessian, 2012).

It is said that the maximum assessment of the effectiveness of IMC is possible when a single interaction of all structures of marketing communications for the efficient transmission of messages to the target consumer and influencing its decision to purchase. In this regard, possible concretization of the basic principles of the concept of IMC, this suggests the new components:

- The structure and the process of IMC formed with increasing activity and the perception of the consumer;
- Dialogue with the customer is carried out thanks to the IMC;
- Stages of IMC provoke the creation of personalized and unique message IMC;

- Trading companies forming the IMC based on the needs of consumers;
- IMC allow to come into contact with the consumer, as well as to recognize the needs of customers.

Within the framework of the identified features of the IMC and the IMC recommended the application of the integrated use of instruments of influence on consumer decision:

1. Promotions (gifts, trial product (presented in the form of tastings), discounts);
2. Communications equipment company (cabinets, refrigerators with company logo);
3. A distribution equipment (stands, hanging shelves, cash cubes), etc.;
4. Innovative POSm materials (displays);
5. New product, rebranding and other goods.

The study developed a formula assessing the economic effectiveness of IMC, which can be used by different trading companies. This can be used indicators such as the index of quantitative indicator advertisements competitors (IGC), the index of the type of outlet (ITT), the index of consumer behavior (IPP), an index of professionalism territorial representative for trade marketing (ITP), the index of the free zone (PPE), the index of contracting type of outlet (IR). Therefore, to accurately calculate the cost-effectiveness of the IMC is necessary to calculate the effect of these parameters by using the formula (1):

$$K_{ef} = (\alpha I_{qc} + \beta I_{to} + \mu I_{cb}) + (\alpha I_{pt} + \beta I_{fz} + \mu I_{c})/2, \quad (1)$$

where,  $\alpha + \beta + \mu = 1$

$I_{qc}$  - Index quantitative indicator advertisements competitors;

$I_{to}$  - Index type outlet;

$I_{cb}$  - Index of consumer behavior;

$I_{pt}$  - Index of professionalism territorial representative on trade marketing;

$I_{fz}$  - Index of the free zone;

$I_{c}$  - Index of contracting type outlet.

The impact of these indicators for the trading companies in various fields should be calculated on the basis of its expert assessments. The approach to assessing the effectiveness of the IMC will contribute to the achievement of the objectives of a trading company. As the company's goals can be: Goal - to become a leader in the segment of manufactured goods, increase profits, and others.

Recommended formula (1) evaluating the economic efficiency of the IMC for a particular outlet is suitable under the following conditions:

- The number of units sold by certain groups of goods produced by trading companies and competitors;
- The geographical location of the outlet (cross-consumers);
- To find a shop near the network of supermarkets, hypermarkets, able to offer consumers better prices for similar groups of products;
- Sales volumes in all product groups;
- The volume of purchases and sales of a particular group of products;

- The amount of operating funds;
- Verbal information about financial investments of competitors;
- The average number of consumers included in the focus group, and others (Figure 1).

Number of workers' funds serves as a signal to form an optimum amount of checkout promotional materials, namely, checkout displays, for coins, boxes for the checks checkout rugs, with the symbols of brands the company employees a signal to attract consumers and sending information about new products and promotions held by the company. Planned placement of such advertisements, is taken into account the number of banks, whose number = one placement of advertising material in the line of sight to the consumer, as well as the number of competitors' promotional materials placed in sight of the consumer.

Materials competitors may signal the approach to the formation of the placement of POS materials products trading company, this approach allows to evaluate the actions of competitors and place the optimal amount of advertising materials. The number of "visual advertising" should be such as to visually block the advertising information of competitors and compel attention of consumers to the promotional material trading company (Mooij, 2013). Posters, wobblers, displays must be placed in checkout zone in sight of customers, they should not be cluttered advertising competitors and be visually dominant over other trading companies, allows buyers to easily navigate the advantages of this product over other similar goods (Novikov et al., 2015).

Type of point of sale (value, aspiration premium, premium) allows you to create the range for a particular outlet, the range that will be profitable this point, demand in this area, the range aimed at the end user, to minimize the risks of storing the goods and the freezing of funds and the possibility of entering the shelf life of the product. For outlets premium class characterized by groups of goods of higher price category, such outlets are located in the business district of the city or in the sleeping area, food and household goods, retail outlets such as aspiration premium similar to the previous type, characterized by the addition of several items cheap kinds of goods company, outlets such as value represented primarily kiosks, pavilions, located close to public transport, in the territory of markets, specialty outlets and others., in retail outlets of this type tend to be decision-makers tend to support a wide range of products for different target audiences, satisfying different needs and tastes.

Type of consumer behavior (show and brows, pay and go) to evaluate literate "infusion" of investment in the retail outlet, namely, the type of consumer behavior "show and brows" - overlooked and buy, say, a large amount of sales area, most likely type supermarket, self-service and the presence of at least one cash register zone, point of sale of this type it is advisable to install expensive equipment and to plan investments in advertising. Outlet where observed purchasing behavior pay and go - buy-and-go, requires placement of a minimum amount of advertising, with the major elements, not to focus on the little things, focuses on the main advantages in these outlets no need to install expensive business equipment, as buyer visiting

**Table 2: The main types of contracting retailers**

Contract type	Characteristic	Advice on financial investments
Communications contract	Type of contract, which is set at the point of sale in the heavy equipment (cabinets, refrigerators, etc.), where the volume is prohibited advertising of competitors	Strive to plan a large amount of contracts, a condition of such a contract should be rigorously defined first in advertising materials, including light commercials, spots in the checkout area
Distribution contract	Type of contract under which competing companies can advertise in the same quantities, equipment, advertising plays a smaller role, and focused primarily on the presentation of goods in a shop	A distribution contract signed with the point of sale involves placing less of information technology equipment, this type of contract it is advisable to enter into a point of sale for the purpose of broad representation of brands in the market, such a contract should not be expensive and trading company by the number of the advertising should not occupy the first place
Rep/RLP contract	Type of contract in which the trading company is a 3 and a lower position in the representation of the goods in a shop	Outlets usually do not bulking, and the representation of the trading company is necessary because of the strategic location of this point - "red line," or at the discretion of the representative of the Marketing
Visible distribution	As a rule, this type of contract is a type of point of sale - kiosks, pavilions, aimed at visual dominance over its competitors, using an active light advertising	This type of contract it is advisable to conclude a trade point of type kiosk, pavilion, shop, located in a public place (park, public transport, the area), the minimum representation of brand competitors

a store, comes with a clearly defined objective and promotional information reluctantly accepts (Shkurkin et al., 2015).

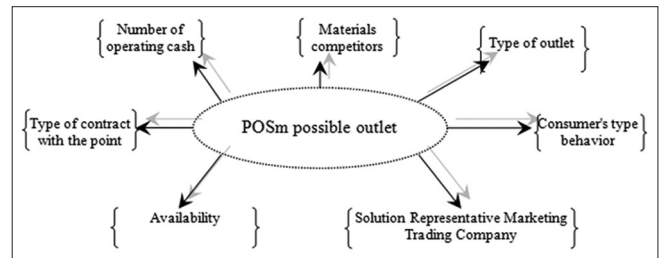
In an ideal model of interaction between circuit elements from a trading company to the consumer, through the IMC, link - representative trade marketing, based on his professional experience, knowledge of the market and consumer preferences, as well as analytical data may take a decision on the budget on advertising goals for a particular outlet. This judgment may seem subjective, but in practice it is an effective element in the formation of the financial component. It can be argued that the adoption of managerial decisions on the calculation of the financial component for a particular point of sale and planning of heavy equipment may depend on the type of contract concluded with the point of sale and its characteristics. There are several major types of contracts with retail outlets (Table 2).

Together with recommendations to improve the effectiveness of IMC needed coherence of messages that are sent to the consumer participants in the marketing system. This approach would eliminate the lack of harmonization, which is apparent from the internal and external communications trading company.

#### 4. CONCLUSIONS

Socio-economic benefits of IMC are the estimated impact of the category of their functional effect on consumer choice and market FMCG (FMCG/goods of daily consumption) in general. However, the management of marketing activities, distribution and promotion policy of manufacturing companies do not fully apply the marketing tools that defined the character of the existing IMC incomplete and insufficient development of application tools for implementing IMC. Underestimating the effectiveness of IMC holding back the pace of development of trade on the FMCG market and acts as a factor limiting the impact on the efficiency of commercial activities of manufacturing companies. The totality of the circumstances listed above are updated by the chosen direction of research in the scientific and practical levels.

**Figure 1:** Indicators included in the calculation of costs POSm\* - possible point of sale



\*Note: POSm capabilities - the optimal number of advertisements placed in the outlet include: Hard-poster, display, mats, boxes of checks, coin, shelf talkers, stoppers, promotional units, etc.

Thus, the use of effective marketing communications, taking into account trends in the development of modern retail companies, provides the absolute necessity of the greatest use of all means of IMC (Afonina, 1999). This focus on this condition, as the impact of the IMC on the various types of buyer behavior. Improving the efficiency of the IMC provides a unified concept of scheduled and unscheduled communications that take place within a trading company and then transferred to the target consumer.

The company, operating under the conditions of modern market economy, promoting your product based on the requirements of the market environment, the legislative framework of the country, the economic situation, the needs of consumers, promoting the brand using the competitive advantages of packaging of the goods, the material used in the production of packaging, the expansion of product lines, aimed at to attract a different audience, conducted promotions, the structure of employees.

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# **Modernization as a Means of Improving Financial and Economic Adaptability Hotel Business**

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## **ABSTRACT**

The strategic goal of the modernization of the hotel business is to ensure its adaptability in a rapidly changing and unexpected external and internal environment. The position of the hotel enterprise may become unstable, or adaptive because of internal production and technological problems, failures in the supply chain, disorders of the information and communication systems, changes in consumer demand, increased activity of competitors. Achieving strategic stability hotel enterprise depends on the achievement of two main components: Security (reducing the likelihood of failures in the various subsystems of the enterprise) and increase adaptability (development of the ability to restore the key performance indicators). The basis of improving the safety operation of the hotel enterprise is to create a system of protection against failures based on prediction, early detection and elimination of negative situations. Such a system should provide for the mandatory inclusion of all personnel in the work of security companies, as well as cooperation with partners, bodies of state and municipal government and even competitors.

**Keywords:** Hotel Business, Modernization, Customer Demand, Competitor Activity

**JEL Classifications:** L21, P48

## **1. INTRODUCTION**

Financial and economic adaptability hotel enterprise depends on its ability to react quickly to changes in supply and demand balance. Changes in supply and demand can be attributed to the change in effective demand, fashion trends, competitor activity and other environmental factors. Moreover, malfunction of the hotel enterprise reduces its efficiency and, correspondingly, to the inability to meet the current demand. Any business interacts with the environment. Problems can arise in the area of logistics enterprises in the service process, in the implementation of services.

For an adequate response to the mismatch of supply and demand, the company must have sufficient resources. In addition, it is necessary to form the supply chain and manufacturing process of service so that a service adapted to the needs of the consumer

in the later stages of the production cycle. This will allow the company more flexibility to switch to service customer segments characterized by unmet demand.

## **2. THE MAIN PART**

Modernization of the financial and economic condition of the hotel enterprise is directly related to budgeting, represents an important integral part of management. The essence of budget management is that it is an element of management-oriented management of commercial organization and is a methodology of planning, accounting and control of funds and financial results.

An important issue in the organization of budgeting in the hotel company is the flexibility of the budget, the ability to quickly change the budget figures in the process of implementation of the budget, depending on the changes of basic indicators (such as

buying and selling of services). Vahrushina notes that the flexible budget takes into account changes in the costs depending on the change in the level of sales services. In our view, this approach is optimal (Vahrushina, 2002).

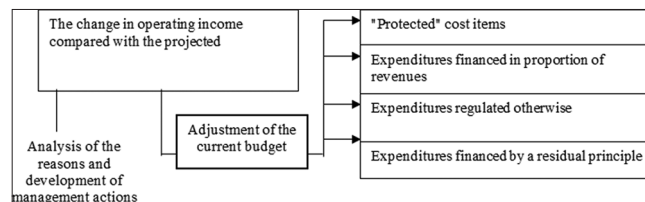
In accordance with the different approaches to the concept of budgeting, a number of researchers, for example, Dugelny argue that there is a wide and a narrow approach to the concept of budgeting. In a narrow sense budgeting - this financial planning the enterprise in which the forecast is three accounting reports: Cash flow (cash flow budget); Profit and loss (income and expenditure budget); Balance Sheet (budget balance sheet). In an extended sense, economic planning technique, in which the company at regular intervals, not only drawn up a set of financial and operating budgets (budget sales, production budget, procurement budget, etc.) which are, in essence, a set of plans business enterprise. Finally, in the broadest sense of budgeting - a technology for control of financial and economic activity of the enterprise. As part of these technologies are performed planning, accounting, control, analysis and regulation of all activities to be implemented.

Maslenchikov also considering a flexible budget that projected costs are set "in the form of standard costs, legislation bound to volume indicators of activity of the company" (Maslenchikov, 2004; Gurieva, 2015). However, this approach does not correspond to the difference between the cost of different types (AC, DC, etc.). Further, the author notes that there are two basic order "management by exception:" (1) The priority at which each exhibiting budget priority and budget with a lower priority is not funded to complete financing of the budget with a higher priority; (2) proportional, in which each applicant is distributed proportional to the budget. Moreover, Maslenchikov he notes the shortcomings of these approaches - is often at the priority that budget with the lowest priority - and they are usually development projects - are generally unfunded; proportional and gives you less control cash flow (Maslenchikov, 2004).

Rumyantseva argues that "the system of budgeting is the most powerful tool of financial management system of all available enterprise management. Properly implemented effective budgeting system capable of... greatly increase the chances of successfully achieving the goals of modernization" (Rumyantsev, 2007, p. 321).

Another approach to flexible budgeting considers Novoselov. He points out that "expenditure items are divided into secured and unsecured and secured first priority funding in cases receiving less revenue, revenue than planned" (Novoselov, 2000). As the author said, "it is necessary to properly assess the degree of protection or vulnerability of a particular expenditure", and, "depending on the specific business activities of a company's allocation of certain costs to the protected or unprotected may vary" (Novoselov, 2000). In our view, this approach is optimal - in budgeting must be set exactly the degree of protection each of the articles. It is necessary to determine what costs are financed in full, regardless of the plan of the revenue, which costs in proportion to the revenues or other financial items, any costs - as a residual. The corresponding approach is presented graphically in Figure 1.

**Figure 1:** The relationship changes in indicators in flexible budgeting system (for example, changes in the level of income)



Note also that such an organization "flexible" budget also allows to organize continuous budgeting, "sliding" manner. As the Khrutsky, "the basic principle of budgetary rules - staggered development involves constant adjustments to the budget bastings as the end of each month or quarter of the budget period." According Bocharova, desirably "budgeting process is continuous or rolling nature." Danilochkina also notes the use of "sliding budget," which can more accurately take into account the changes in the environment in which the company operates. This author points out that in many companies are so-called "sliding" of the budget: The budget, drawn up for a sufficiently long period of time (1 year), adjusted in the process of implementation (e.g., monthly): In December, is made up of 12 months (from January to December) in January - in the next 12 months (since February of this year to February next), etc. Mischenko also argues that "need to maximize closer control to real time" (Khrutsky et al., 2004; Bocharov, 2003; Controlling as a Management Tool Now, 1999; Mishchenko et al., 2004).

Universal scheme of budgeting does not exist. Methods and techniques of budgeting can be applied only on the conditions of a particular company. So, according to Dugelny, budget management system (as opposed to accounting system) cannot be projected in a universal form of planning (budgeting) of business - a difficult task that must be addressed at each plant individually (Dugelny and Komarov, 2004; Espino-Rodríguez and Gil-Padilla, 2015).

The role of budgeting notes in his dissertation Nyrova (Mirotin and Tashbaev, 2004), who writes: Budgeting is a method of allocating resources, characterized in a quantitative form, to achieve the goals as presented quantitatively. The main purpose of budgeting in the modern enterprise is to increase the efficiency of the company through:

The main purpose of budgeting in the modern enterprise is to increase the efficiency of the company through:

- Target orientation and coordination of all the events at the enterprise;
- Identify risks and reduce their level;
- Increasing the flexibility, adaptability to change.

Thus, the formation of the budget as the main financial plan and the economic regulator of the relations between the structural subdivisions of the enterprise and the enterprise with the environment enable enterprises to effectively manage finances in conditions of instability, to organize the production of competitive products, ensuring the effective development of the company.

Generalizations of the concept on the basis of theses Karpova and other researchers are shown in Table 1.

Unfortunately, even in accommodation establishments of the Russian Federation, in addition to large companies, the lack of proper financial planning, and received guidance solutions for financial and economic activity are not justified by appropriate calculations and are intuitive. In some plants planned work is carried out only for a short time (3 months) and is reduced to the definition of a more or less exact size of advance payments of tax payments. However, too short planning horizon eventually turns into a barrier for business development and leads to an emphasis on the current problems. Therefore, greater importance should appear to be given a strategic perspective and intra-corporate financial planning.

Despite the urgent need not all enterprises still present planning and control on the centers of financial responsibility, even though this method allows an effective control by delegating responsibility to the level of individual departments, to conduct operational analysis of operating results and to determine the weaknesses of production; In addition, this method makes it possible to keep management informed of what areas of production cannot achieve the targets.

The procedure for upgrading the financial and economic condition of the hotel enterprise should include the four stages (Gurieva, 2006):

- Identification of factors of negative fluctuations of the external environment;
- Identification of possible deviations from the favorable values;
- Determination of the likelihood of each adverse deviation;
- Assessment of the potential consequences of each adverse deviation.

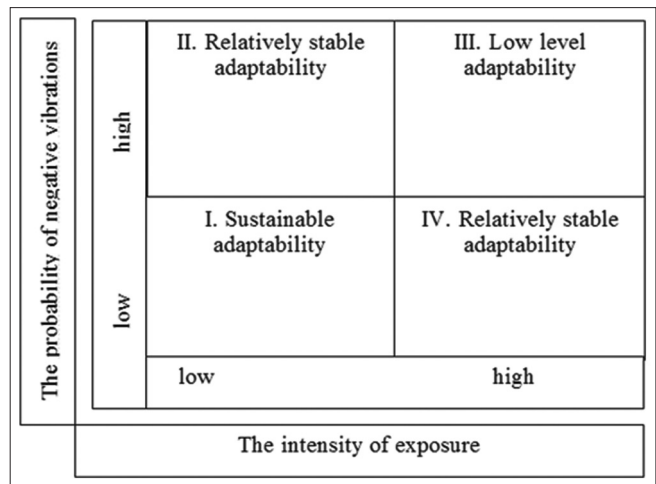
For ordering information on possible disturbances, predicting their occurrence and consequences of their ranking, to identify “weak points” of the enterprise, you can use a special scheme. It allows you to determine the degree of adaptability of the enterprise with respect to fluctuations in the external environment. Influence of environment on the level of adaptability of the enterprise is characterized by the probability of occurrence of an adverse fluctuation and intensity of its impact on the operation of the enterprise. In analyzing the impact of environmental factors on the degree of adaptability of the enterprise in the coordinates of “likelihood of fluctuations/intensity of the impact,” there are four possible degree of adaptability of the enterprise (Figure 2).

Low level of adaptability is maximal when the probability of negative vibrations is high, and the consequences are severe (quadrant III). If on the contrary, the effects of fluctuations are not significant and have a low probability, the level of adaptability of the enterprise will be high (Quadrant I). The negative vibrations that have a high probability, but of little consequence (Quadrant II) fall within the competence of tactical management. These include “common” business problems, as small changes in demand, reduced productivity, deterioration of product quality and service, etc. Events IV quadrant, with low probability but serious consequences for the company, require strategic analysis and planning measures to overcome their negative impact, beyond the tactical management.

**Table 1: The role of budgeting in enterprise management**

Budgeting as ...	Impact on enterprise management system
The guiding force of the company	Budgeting involves the focus on results, confirmed by appropriate resources and incentives of company personnel and harmonization of existing units
Style of thinking	Budgeting forces managers to think several moves ahead
Operational management instrument	Budgeting system enables operational decisions based on budgets and plans, as well as to control the execution of these decisions
Instrument of control	Both in fact and according to plan - in the latter case, the system of budgeting can prevent inefficient solutions even before they were implemented
Game rule	Budgets of companies are regarded as agreements between the departments and the administration of companies, imposes certain obligations
Image activities and ideology	In the company to budget should be just about anything, and the rules of budgeting should be clearly fulfilled
Competitive advantage and a symbol of progress	Implementation of budget management increases the management capacity of the company; the presence of the budgeting system allows more seriously the company’s creditors, investors, customers, suppliers, etc.)

**Figure 2:** Map of the impact of negative fluctuations of the external environment on the degree of adaptability of the hotel enterprise



A similar map can be constructed for assessing the impact of a particular threat to the external environment to the enterprises of various industries. It is clear that enterprise of different industries to varying degrees affected by threats to the environment. For companies in certain industries are more dangerous terrorist attacks (airline), for others - a natural disaster (the tourist business), for the third - the strike of trade unions (automakers), etc. (Ovcharov et al., 2015). Thus, companies are in different quadrants of the card, depending on the type of environmental exposure.

In the analysis of adverse movements in the environment, with serious consequences for the company, it is necessary to classify the possible

risks of their ranking, and to identify key areas of action for the development of an adaptive enterprise. For example, in the company of general motors (GM) have developed a classification of the possible negative situations, consisting of four units: Financial, strategic, and operational and block natural disasters (Korchagina, 2002).

The operating units are problems associated with damage to the manufacturing process, from failures in the supply of raw materials to turnover.

The block of natural disasters and accidents are dangerous risks associated with random effects (environmental factors), and intentional infliction of harm (falsification of the product).

Financial unit includes both external (exchange rate fluctuations) and domestic financial risks (errors in the financial statements).

Strategic block includes the key risks of strategic management: The emergence of new competitors, fluctuations in demand, the deterioration of relations with dealers and brokers, etc. The sum of all four units the company estimates more than a hundred different risks. Risk classification methodology GM is shown in Table 2.

Classification, developed by GM, is relative. There is no clear separation of factors external and internal environment. A more detailed classification of risks allocation of additional groups (seems biased switch, for example product liability in a block of natural disasters and dangerous accidents). Furthermore, approach GM observed including one type of risk in the different groups (duplication).

For example, the loss of principal supplier, disruptions in the activities of providers assigned to a group of operational risks,

and relationships with suppliers - to a group policy, although these categories overlap. The situation is similar classification already mentioned product liability to block natural disasters, and the perceived quality of the product by the consumer - to strategic risks.

To overcome the drawbacks of the above-described methods of risk assessment is necessary to use a systematic approach. This approach involves a comprehensive analysis of all components of the financial and economic adaptation of the enterprise taking into account the effects of the environment. To do this, you must set targets flexible enterprise management as a subsystem within the system of higher order - the regional economy (Korchagina, 2002; Quek, 2012).

Then you need to assess the current state of compliance with specified target parameters. In case of divergence of target and actual performance of the company, it is necessary to develop and implement appropriate corrective actions. In addition, you must be a clear separation of internal and external factors. Environmental factors define the limits of sustainable development of the enterprise. Influence them, as a rule, the company cannot, but is obliged to take them into account in their activities. Efficiency of internal factors of sustainable development is determined by the flexibility of literacy and strategic management (Skameykina, 2009).

To build a system of targets for sustainable development will use the methodology of the objectives tree. This methodology will provide the following benefits:

- Specific language of each target (to be reflected in a specific object or process);

**Table 2: Risk classification methodology GM**

Financial block	Strategic block	Operational block	Block disaster
Failure to pay the debt on the loan	New or foreign competitors	Staff turnover, lack of staff skills	Geopolitical risks
Adverse changes in the regulatory and legal acts	The boycott of the population and public reprimand	Guarantees/company product recall	Product liability
The intervention of the shareholders	Negative reviews media	The loss of key personnel	Severe weather conditions
Fluctuations in interest rates	Protectionism in foreign markets	Extortion	Sabotage
Fuel prices	Corporate culture	Discrimination	Lost shipping
Currency fluctuations	Loss of intellectual property	Embezzlement	Management's Responsibility
The instability of the financial markets	The struggle for market share	Problems of information and management	Property damage
Credit rating of business obligations	Relationships within their own companies	Failures of the accounting system and internal control	Environmental pollution
Liquidity/availability of funds	Relations with suppliers	Malfuctions in the system failure	Building collapse
The economic downturn	Relations with dealers	Crashes IT - systems	Third party liability
Changing the rules of accounting/ tax legislation	Technological Design study	Violation of the requirements of health and safety	Compensation of employees injured on the job
Structure of uncompetitive costs	Inefficient management	Governmental investigations	Earthquake
Revenue Management	Violation of moral norms	Crashes suppliers	Flooding
Change of environmental protection legislation	Relations with trade unions	Breaks in the activities of suppliers	Tsunami
Valuation of assets	Seasonal fluctuations in demand	Loss of the main supplier	Epidemic
Convertibility of currency	Perceived quality	Theft	subsidence of buildings
The cost of health care and pensions	Customer relations	Deliberate damage	Fires

GM: General motors



- Comparability purposes at each level on the scale and significance;
- Measurability (possibility of a quantitative assessment of the level or ordinal achieve the goal);
- Opportunistic (the representation of each target in the form of higher levels of lower-level sub-goals so that the union of the concepts of sub-goals are completely determined by the concept of the original target);
- Continuity, consistency, completeness statement of objectives (objective tree is constructed in such a way that between the concept of goals and sub-goals it was impossible to include intermediate concepts, with the exception of even one sub changes the concept of the original target).

When constructing objectives tree is necessary to decompose the general goal of “ensuring socio - economic sustainability of the hotel enterprise” a number of sub-goals. In the first step of decomposition, we can identify six groups of targets, describing the activities of the hotel complex of the enterprise in the field of marketing, production, financial, organizational, management, and innovation, social and environmental policies.

To ensure the sustainability of marketing include: Strengthening the competitive position, business activity, increase sales, enhance the attractiveness of products for consumers. Production is characterized by increased stability of the efficiency of resource use and production activities. Financial sustainability of the hotel suggests increasing the profitability of financial and economic activity, solvency and financial stability. Organizational and managerial stability is determined by an increase in management efficiency and increasing the investment attractiveness of the organization. Ensuring the innovation process involves the introduction of new technologies and ways of organizing the production of services, production of new types of services. Decomposition purposes should be carried out in compliance with the requirements of the lower levels of measurable goals. Realization of the target parameters of the model of sustainable enterprise development involves the creation of specific governance mechanisms.

Serious threats to the sustainable development of hotel companies rarely occur in the absence of signs of foreshadowing. Chance of many random events can be estimated by the publicly available information about the frequency of earthquakes, floods, epidemics, etc. Many natural phenomena are subject to statistical laws, suggesting that their appearance at certain times. Moreover, the majority of adverse events associated with the human factor, is subject to similar laws. A large number of minor disruptions usually precedes a more serious events. Thus, minor accidents are an important basis for the analysis of the factors and causes of the instability of the hotel enterprise. Their study will allow the company to adjust the mode and conditions of their work in order to prevent the crisis. Permanent collection and regular analysis of the shortcomings of the enterprise will reveal his “problem areas” and to optimize the process of assessing the likelihood of potential threats.

Currently, most Russian hotels have no formal instrument failure prediction and assessment of their likelihood. If such a process is

organized in the hotel, the analysis is usually based on subjective assessments management. Limited opportunities for assessment and prediction of problems and threats leads to the necessity of formation of surplus resources for the sustainability of the hotel enterprise.

In the development of a crisis of any nature, regardless of its length and depth, can be divided into several stages.

Modernization of the financial and economic condition of the hotel enterprise consists of a series of sequential steps. In most cases, the company can anticipate the negative impact of the environment and to prepare for them. This will minimize the negative effects of the crisis and maintain stability.

The first stage - the process of preparation for the crisis: System analysis and forecasting of possible problem situations enables hotel companies about the existing negative trends. This allows you to identify systemic problems that can trigger the development of the crisis in the future. It should be noted that the lead time a crisis situation may be different.

This is followed by the onset of the crisis. From the perspective of system analysis for enterprise - is a critical point at which the system goes out of balance. Its further development can take place under different scenarios (or survival, restoring stability when changing the basic parameters of activity or bankruptcy). Forecast of development of the company depends both on the outside (the impact force of the crisis) and internal factors (ability to adapt).

The second stage - the first reaction of the hotel enterprise to the crisis: The duration of this stage may also be different. The first reaction is aimed at preventing the physical and material damage to the company, its employees and the environment (in the case of natural disasters, etc.). This stage involves the use of resources of the hotel enterprise, and perhaps outsourcing. Minor symptoms of instability (primarily fluctuations in consumer demand) or the initial stage of a serious crisis, the company can overcome with the help of pre-made stocks. Hotel company may create reserve capacity to replicate key processes and diversify the supply of materials and major components. This will allow the company to serve customers, in parallel doing restoration after the failure. At the same time, the strategy of “creating insurance stocks” has serious drawbacks, chief among them - the high cost. Storage insurance stocks significantly increases the overall cost of the enterprise and, therefore, reduces the profitability and efficiency of its current work. Intense competition is forcing companies to optimize hotel workflows, reduce costs primarily by eliminating the storage of surplus stocks. The strategy of creating insurance stocks is justified in a situation where the potential losses from the crisis are quite high, and the costs to build stockpiles and production facilities are relatively small (for example, information technology).

It is not always immediately visible effects of the crisis in full. The crisis may have a delayed impact. The consequences of the crisis can be mitigated by advance preparation, the ability of the hotel to compensate for the temporary loss of enterprise sustainability. If

the effects of the crisis are manifested in full, the hotel enterprise sustainability and efficiency of its work seriously reduced.

The third stage of modernization in a crisis situation is to prepare for recovery. It can start with either simultaneously with the first reaction, or soon thereafter. This stage involves the assessment of alternatives for restoring the stability of the company and choice of the optimal course of action (shift to the new marketing segments, the search for new suppliers and middlemen to attract the necessary resources, etc.)

The fourth phase - the restoration of adaptability. Restoration of supply, production, destroyed infrastructure, information and communication systems may require considerable time. If, because of a crisis situation at the enterprise deteriorated relationship with target consumers regain a stable position on the market it will be difficult. In many ways, the severity of the crisis depends on the competitive position of the company: If it works on the market with fierce competition (for example, the production of consumer goods), the company must respond to the crisis more quickly and effectively than in a situation where it produces a unique product. Adaptability position of the company in a competitive market is highly dependent on the index of the market share. The larger the market share, the higher its adaptive capabilities and the potential of the positive long-term development. Due to economies of scale, the company with greater market share is lower production and transaction costs. Accordingly, it can use a flexible pricing policy and additional internal reserves to survive the crisis with fewer losses. To return to normal production, many companies are working with increased loads on labor and material resources.

The basis for the development of hotel management adaptive enterprise strategy should be flexible. Its practical implementation is rather complicated, because it involves the creation of a flexible system of cooperation not only between departments of the enterprise itself, but also between the company and its major partners. This strategy includes building a stable long-term relationship with clients, flexible contracts that allow the volume and schedule services. It involves the use of flexible manufacturing technology services, allowing the release of various services. It involves the training of generalists capable of solving various production problems. An obligatory element of this strategy is to manage the relationship with consumers, aimed at creating strong partnerships (Sohn et al., 2014).

Any modernization of the system is based on the objective of the internal laws (self-modernization - self-sufficiency; self-development - local government). Therefore, modernization involves rapid adaptation of the hotel enterprise to the constant changes in the environment.

The strategic goal is to ensure the modernization of the hotel business in the conditions of adaptive immunity sharply and unexpectedly changing internal and external environment.

The procedure for modernization of the funds needed to increase the financial and economic adaptability hotel enterprise consists

of four phases: Identification of factors of negative fluctuations of the external environment; identify possible deviations from favorable values; determining the likelihood of each adverse deviation; assessment of the possible consequences of each adverse deviation. At all stages of the modernization action is necessary to monitor the degree of negative and positive vibrations, favorable and unfavorable events for the seating sector, to assess the quality of hotel products and services for the customer. This process, as a rule, is engaged in business communications system.

The role of business communications in the hotel company is that they are a necessary and fundamental conditions that support the existence and development of modern hotel service. You can also recognize it is a fair point of view, shared today by a growing number of economists - scientists, researchers and practitioners of business and entrepreneurship, according to which business communications are the essential foundation of business of the modern type, in fact, the business of communication - it is the modern economy (Skameykina, 2009). Among the trends that determined the growing role of business communications in the hospitality industry are:

1. A commitment to ethically-oriented business - communication allows you to create an active communication environment for establishing fruitful contacts between the enterprises of the hotel industry, business organizations, the authorities and the media.

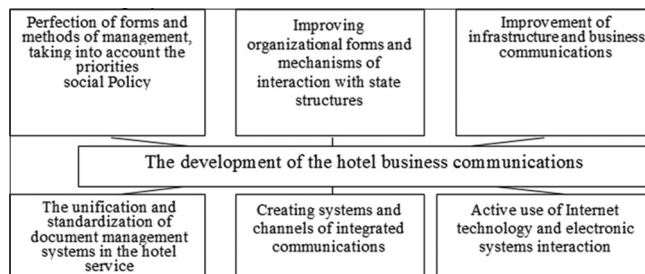
Analysis of the domestic as well as international experience shows that the most important areas of modernization of business communications hospitality industry, commercial and non-profit organizations whose main activity is the production of services include the following areas shown in Figure 3.

Consider these trends in more detail:

- Improved forms, methods and systems management of hotel companies offers a package of services for the population, in order to achieve such economic performance, which could provide them with adaptive functioning in a competitive market environment.
- Improved organizational forms and mechanisms

Interaction between hotel companies with government agencies. In a market economy, the direct intervention of the state in the sphere of hotel business, even if it is a market of socially significant and ensuring social stability of services is considered

**Figure 3:** The main directions of modernization of the communications business hotel enterprises



to be unacceptable. However, the state has a sufficiently powerful arsenal indirect impact on the market situation, using legal and political forms of regulation of the spheres of activity, which it considers a priority in terms of public interest.

- Improved systems and infrastructure business  
Communication involves, first of all, the adoption of decisions related to technical and technological support of business contacts, which could serve as a reliable basis for an intense and ever-increasing amount of information in business interactions.
- Harmonization and standardization of document management systems in  
Hospitality services to the public with a view to removing  
Barriers in the field of hotel services between consumers and organizations, including the government, to carry out legal, mediation and regulatory functions.
- Development of systems and integrated communications channels is of particular importance in terms of improving the efficiency of business communications and giving them a qualitatively new form, relevant to today's technical and institutional capacity in the field of communications.
- Increasing the efficiency of information contacts with the end users of services through electronic channels of communication based on the use of Internet technologies.

### 3. CONCLUSIONS

The modernization of the Russian economy requires modernization and service. The need to speed up the dynamics of the Russian services is dictated primarily by internal factors - low levels of virtually all services, as well as the country's orientation towards a dignified integration into the world economy.

The course for the modernization of the Russian economy suggests the creation of favorable conditions for the fuller realization of the positive trends in the services sector and its general economic impacts.

Conceptual model of modernization service enterprises may be aimed at strengthening their role in the progressive change of factors external and internal environment, on the systematization of emerging challenges predictive monitoring and analysis of the business environment in the structuring and optimization of internal capacity.

The imperative of modernization processes sphere of hotel services defines the main benchmark of quality, competitiveness and adaptability of development. This requires the development of a new growth model based on promoting the quality of services, that is to create the conditions for sustainable operation and development of the subjects of the hotel business.

Analyzing the state of affairs in the domestic hotel industry against the backdrop of the international hotel industry can be stated that it is necessary for modernization, which should be the basis for the following tasks:

- Ensure strategic stability and adaptability of the hotel business;

- Improve the quality of hotel services;
- Increase the competitiveness of services.

The complete cycle of management decision-making in the modernization possible when forming the flexible hotel management, able to carry out strategic planning, flexible budgeting, business communications and monitoring of competitiveness, i.e. use the optimal set of modernization.

Flexible hotel management as a whole is a means of implementing the ability to adapt hotels in different areas and types of modernization.

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## Features Sub-Regional Localities in the Structural-Level Organization of the Economic System

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### ABSTRACT

The new paradigm of development of Russia poses the problem of sub-localities identify promising opportunities for economic growth. Municipalities in the region operating in difficult circumstances of post-crisis development, with the majority of undecided strategic guidelines of the Federation, are experiencing an acute shortage of new tools, mechanisms, resources for development. Mixed trends in the development of sub-regional areas, the differentiation of socio-economic potentials of municipalities necessitate the creation of methodological support and develop practical recommendations to identify the most productive areas of the territories of the shortage of resources.

**Keywords:** Regional Economy, Localities, Economic Growth, Resource Regions

**JEL Classifications:** P25, P48

## 1. INTRODUCTION

Due to the market paradigm field financial results for the first position in the territorial and economic management practice severely restricted freedom of territorial management of social and economic processes, targeting all elements of the organizational structure of the regions and municipalities in the performance. This circumstances forces to scientific development and implementation of new approaches to the organization of sub-localities and municipal level on municipal - settlements, cities, districts, and their groups formed on the production, territorial and economic or other basis. Requirements for growth in living standards necessitate use of territorial and economic practice the new form and content of organizational and economic structures (Goldin, 2016; Leitão, 2013), which on the one hand susceptible to the dynamics of the external environment on the other - are powerful enough to

implement systematic innovation in the process of functioning and development of territories.

It is clear that many issues of sub-areas lies in the powers of local governments, it is difficult to currently implemented, as Most localities (especially the settlements) lacks all kinds of resources, and are threatened by the loss of social and industrial infrastructure. Find the best ways of territorial development, reinforce the social orientation of strategic development, enhance the living standards of the population, especially in rural areas, one of the most urgent problems of modern science and practice.

The role of sub-regional level management of the economy is extremely high: It is with this level of power interacts most companies, their local units and the population. From the efficiency of the organization of interaction directly affects the quality of the public agency to its primary function - providing the highest

standard of living and the most favorable conditions for doing business.

Providing forced to seek an acceptable compromise between the interests of the higher authorities, the public and business, sub-regional bodies produce certain models of management of territorial economies (Mukhaev, 2010; Bogolubova et al., 2013). These models can be both traditional (historically developed) and new (formed sub-regional authorities during the term of their mandate) and regular (taking into account the inevitable election of rotation) are reviewed. It is obvious that the formation of the model of economic governance at the sub-regional level, significantly affected by higher levels of government (in the case of Russia we are talking about the federal and regional levels).

## 2. THE MAIN PART

The theoretical approach to the problem develop the most adapted to the specifics of the region's economies in the territorial management model requires a preliminary analysis developed in Russia and abroad, management practices, drawing up a list of advantages and disadvantages of these models and principles to minimize the negative effects of flaws. The region, on one hand, is part of a larger territorial entity (Federal District, the state), and on the other - is made up of smaller territorial units (municipalities).

At the federal level, the region is perceived as a single territorial unit, and the central authorities seek primarily to ensure ongoing compliance in the area of economic policy challenges facing the country as a whole - in some cases with possible damage to the region itself. Such an approach is fraught with enlarged (with the authoritarian style of the federal administration) insufficient taking into account the interests of both the region and the individual economic agents, leading it operates (Akhobadze, 2009; Auer, 2015).

Sub-regional locality at the regional level is perceived as a territorial entity, included as a single entity in the region. Regional leadership is the focal point of interest of the municipal level of government and at the federal level.

Under the direction of sub-regional economies locality means the totality of methods and tools of the impact on businesses locality.

Economic Management sub-locality is aimed at achieving the following objectives:

- Ensuring a high level and quality of life of the locality;
- Creation of favorable conditions for doing business in the sub-region (including through the creation of appropriate infrastructure);
- Identification of priorities for economic development;
- Provision of conditions for the formation of a stable financial base for the sub-region.

In order to prevent possible conflicts of interest between different levels of government (and by the subjects of management), we developed a specific set of principles (Table 1).

Obviously, the content of socio-economic processes at the level of the municipality, its forms and methods defined on the one hand, the national economic policy (macro), on the other hand, regional policy, taking into account the peculiarities of a particular region and the municipal economic policy, reflecting the peculiarities municipal development (meso-level control). All this, in turn, has a direct impact on the activities of business entities (Zotov, 2010) located in the territory of the municipality (micro-level control).

To determine the nature and content of the sub-locality in the current economic conditions, forms and methods of administering the economy seems necessary to review the practice of public administration development of socio-economic system in the sub-region.

Management problems of social and economic processes at the level of locality as a meso-level management in modern conditions are updated, due to the democratization of life, development of market principles in management. At present, it formed a number of approaches in the various scientific schools, both foreign and domestic, are different interpretations of the goals, objectives, forms and methods of management of social and economic processes of sub-regional locality.

The socialization of the economic system, the strengthening of the economic governance framework lead to the formation model of "controlled company," which reduced the role of traditional attributes of capitalism - private ownership and the market mechanism. As a result, strengthening the role of social, environmental and political factors in the development of a modern economy is the formation of a wide variety of institutions involved in the management of social and economic processes at the meso level (Antonov, 2009; Gurieva, 2015).

Proponents of the theory of business management environment are believed that the optimal impact on the functioning of the state of the economy should be carried out through the external business environment. They see a system of government as the external environment, which provides, first, the safety of goods and services for consumers, compliance with environmental requirements in the production process, the accuracy of advertising information, etc. and, secondly, support for the private sector based on subsidies, protection against unfair competition, enabling access to the markets of other countries, and so on. d. Thus, the forms and methods of governance are considered from the standpoint of the interests of business, the implementation of which will ensure that the interests of the Community social and economic system and society as a whole. The representatives of this area say that the economy operates within a controlled environment, which determines the behavior of actors influencing them in such directions (forms) as intercompany relationships, contractual relationships with other companies, foreign economic relations, market conditions, credit, insurance risks, legal norms, standards and so on. Therefore, governance is a complex system of forms and methods of influence on the environment of business operation, defining the rules of behavior of actors and sets certain parameters within which ensures coordination of the interests of private business and society as a whole.

**Table 1: The principles of interaction between levels of regional and sub-regional management**

The name of the principle	The essence of the principle	Advantages of the principle	Disadvantages of the principle
The principle of decentralization	The shift decision-making authority from regional to municipal authorities, and from them - the agents of the market	It allows to prevent the monopolization of the right managerial decision-making entities, far from the real situation in the sub-region, and guarantee the interests of the regional and municipal levels of government and the individual subjects of the market	It requires a high level of professionalism of the local authorities and the lack of pronounced conflicts between different levels of government
The principle of partnership	Rejection of rigid hierarchical subordination vertical	It allows you to create a cooperative relationship between the various levels of regional government	May require lengthy approvals in strategic decision that is fraught with missed deadlines for their implementation
The principle of subsidiarity	Allocation of financial resources for pre-defined targets	It makes transparent procedures for the formation of the revenue and the expenditure side of budgets at all levels and ensure the implementation of key projects and also strengthens the responsibility of all levels of government over the expenditure of funds	It reduces the possibility of regional and municipal authorities to reallocate funds within the budget in accordance with the current priorities
The principle of adaptability	The ability to react to changes in the external environment	It provides the right to regional and municipal levels of government to make changes in the economic policy in accordance with the requirements of the current situation	Requires a high level of professionalism of managers at regional and municipal level, is fraught with a lack of a coherent economic policy and the constant change of economic course
The principle of separation of functions	Each level of government is inherent in its feature set	A clear division of responsibilities between levels of regional governance	Imposition of important functions outside the scope of responsibility of the municipal and regional levels of government
The principle of a dedicated competence	Control functions are divided into a certain set of competencies, and each level of the control region is allocated its own set of competencies	Each level of the control region is able to independently carry out all management functions (under the list of competences allocated to it)	Since competence belong to the same set of features, you need a clear description of each competency and unambiguous distribution between levels of government, otherwise decisions will be hampered because of the unavailability of each of the levels of government to assume its responsibility for the unobvious

An ideal system of forms and methods of government social and economic processes at the meso level must meet the following criteria: Be democratic, aimed at achieving the desired results; have sufficient power to influence; be effective and at the same time does not reduce the effectiveness of controlled processes; use a system of socio-psychological motivations; It is fairly easy to understand; based on practical experience; be adaptive; take into account the long-term interests; encourage progressive development.

Starting with almost all Keynesian school of economic theory confirms the need for state intervention in social and economic processes. The need for governance is largely due to imperfections in the market mechanism and its inability to solve the current problems of development at the macro level (the national) and meso-level management (regional and municipal), as well as at the micro level (organizations, companies). One of the main problems of management in a market economy is to create a system of public control over the business, including control at the micro, meso and macro levels. This system includes control over the activities of major corporations, government influence on the mechanisms

of competition and pricing in the commodity markets, financial markets, labor market, and others.

At the level of sub-locality as a meso-level, also highlighted various methods of control. In particular, it can be noted that the mechanism comprises municipal management tools to adjust the public interest, which can be divided into three groups.

In the economic literature describes a wide variety of methods of management of social and economic processes at the meso level. In particular, the Lexin, Shvetsov, Turns, Larina, Kiselnikov, Marshalova, Novoselov, Surnin et al. suggest the following classification of the impact on market processes management techniques are divided into direct and indirect, the breadth of impact - on the overall economic and selective, the channels of influence - economic and administrative policy actions and forms of implementation - on tax, fiscal, monetary, price, antitrust, foreign, institutional and others.

An interesting classification of instruments of influence on the economic actors the territory represented Akhobadze (Akhobadze,

2009) (more complete classification of instruments of influence on the directions of the impact is shown in Figure 1).

- A. According to the mechanism of influence:
- Direct impact tools - can be applied to economic operators which are in state or municipal property;
  - Indirect impact tools - are used for non-public enterprises;
- B. According to the degree of regulation:
- Formal tools - used in accordance with the existing legal framework;
  - Informal tools - used by personal relationships with the leaders of the regional companies, or through the provision of informal pressure on them.

In our view, the tools of influence on economic actor’s sub-locality can be divided into the following groups.

The first group of tools includes the needs of the population: Physical infrastructure - roads, streets, bridges; water supply and canalization; removal of garbage, lighting, heating homes; education, health, nature protection, social protection, public safety. To meet these needs, the municipal authority acts as a special kind of “entrepreneur” organizing and leading their own business activities. Special regulations apply to businesses serving the needs of the public and are local natural monopolies (water and sanitation, heating, telephone, and others). Municipal management in this case is based on the federal law regulating the activities of companies that dominate the local commodity markets, and use its own leverage economic and legal regulation, which allow you to combine the interests of the population of sub-locality, and monopoly enterprises. In the case of inefficient solution to the problem of monopoly local governments can exercise the right of legislative initiative and submit them to the required bill to the legislative bodies (Akmalova, 2009).

The second group of tools provides the adjustment and harmonization of interests of different municipalities (e.g., donors and subsidized), municipalities and entities operating on their territory, municipalities and the Federation to ensure the integrity and the normal development of the local community. In this case, the mechanism of the municipal government carries out planning and regulatory functions (Akhobadze, 2009; Akmalova, 2009).

It should be noted that total dependence on subsidies of many municipalities is a factor that impedes the establishment of an effective mechanism for municipal administration. Municipalities’

donors are not interested to improve the management system, improve the profitability of the territory, reduce costs, and increase efficiency. In modern conditions, increasing yield sub-locality is accompanied by the redistribution of part of its spinoff in favor of subsidized territories and the reduction of tax payments to the local budget.

Uneven economic development of municipal enterprises is an objective factor and should be taken into account and offset by the mechanism of the municipal government. In forming the financial basis of government in the context of cooperation between state authorities and local authorities need to be addressed two issues: How to divide the most efficient sources of income between the budgets of the Federation and local budgets and what are the procedures of interaction levels of government while fixing the revenue sources of local budgets.

The third group refers to the instruments regulating the activities of economic entities, non-municipal property. In this case, the main methods of management are indicative methods. Regulating the activities of the municipal government suggests an indirect effect on the behavior of economic agents and the population of the territory through the application of the system of economic impulses, which would be able to provide effective social and economic development that meets the interests of the population.

Regulating the activities of local government must include:

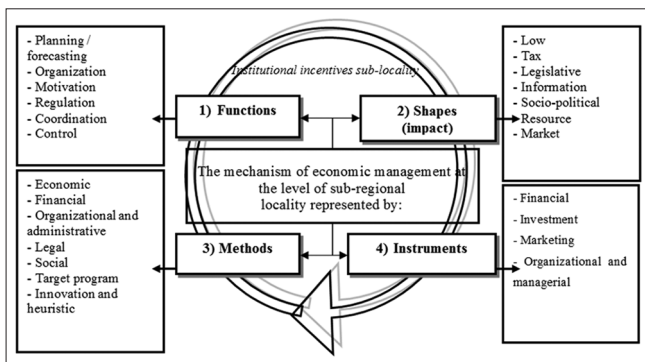
- Study and development of prudential regulations designed to ensure the indicative management of socio-economic, environmental and financial processes;
- Regulation of economic activities through the development of the overall socio-economic development strategy using predominantly economic methods for the implementation of this strategy.

Stimulating economic activity that meets the objectives of social and economic development, including extensive use of market-based instruments:

- Direct grants and subsidies from the budget in those areas of business activities that provide a tangible increase in the level and efficiency of social and economic development of the area (usually on the equity basis);
- Use of a flexible tax and price policy, which provides entrepreneurs interested in the expansion of the economic activities that meet the interests of sub-locality;
- Use of preferential policies for local tax payments for resources to support the lease of entrepreneurial activity;
- Increasing the responsibility of all the structures for the implementation of the legislative and regulatory environment operating in the sub-locality, the development and application of sanctions for their violation (Avramenko et al., 2015);
- Attracting investment to the territory of sub-locality by creating a favorable climate and an atmosphere of trust in the government (Sevriukova and Trusova, 2015).

Summarizing, one can conclude the following: Based on the above it is possible to formulate a definition of economic categories “sub-regional locality” as of certain principles and a certain way formed the territorial and economic education within the boundaries of

**Figure 1:** The control mechanism spatial socio-economic development at the level of sub-locality





the public authorities or groups of municipalities, with a range of quality of economic integrity and administrative autonomy, which has a certain organizational structure and bodies management on the principles of contractual parties, indicative planning and synergistic management. As a sub-regional economic integration as a locality can be considered end, focused in a certain range of problems separate settlement (city, town, village, etc.) or a group, a municipality or group of them, as well as territorial and economic education in the municipality, or groups; it can be indefinite or indicating the period of existence.

The main methods of management of social and economic processes at the level of sub-locality should include economic, financial, organizational, administrative, legal, social, and some specific techniques unique to the progressive mechanisms, such as program-targeted, innovative and heuristic methods to ensure the accelerated development socio-economic systems (Rudoj, 2009; Nechaev and Antipin, 2014).

Forms of influence on the processes of functioning municipal services are very diverse and include: Low cost, tax, legal, political, resource, market, information, as well as their variations and different combinations and combinations.

Among the key instruments of municipal management of the economy are as follows:

- Financial management (operations and methods of financial management);
- The production and treatment of municipal securities;
- Marketing of goods, services, consumer organizations, local economic and social processes;
- Competent management of municipal property;
- Involvement of the public to the problems of social and economic development, in particular, to the development and implementation of strategic plans;
- A variety of measures for the comprehensive support of the private sector and, above all, small business;
- Increasing the educational and qualification level of municipal employees;
- Audit and open to the public the results of the activities of the municipal government.

The mechanism of management of social and economic processes at the level of sub-locality can be represented in a simplified form of the scheme (Figure 1).

Thus, a set of forms, methods and tools of socio-economic processes at the meso level is a complex system. Please note that in each sub-localities can apply a different set of tools, techniques, methods of solving various tasks and goals. In practice, as a rule, do not use separate tools and levers, and a certain set of them, a combination of the most effective in a given situation. The changing operating conditions give rise to more and more new instruments and methods of influence on social and economic processes at the municipal level. Therefore, a modern management mechanism of social and economic processes at the municipal level should involve searching, testing and implementation in practice of the local activities of effective socio-economic and

organizational-legal methods most appropriate to the situation and lead to the attainment of the objectives (Rudoj, 2009; Akhobadze, 2009; Akmalova, 2009).

From the above it can also be concluded that the outlines of the mechanism of management of socio-economic development of the sub-locality are defined by a system of levers used by both the federal (macro level) and at the regional and municipal levels (meso) to generate economic space, developing according to the laws market economy.

Operation and development of socio-economic systems of municipalities cannot be done only on the basis of market self-regulation. The policy of non-interference of the state inevitably leads, as international experience shows, to an increase in all sorts of contradictions that can destroy the integrity of the national economy and society (Suntsova, 2012). Therefore, attention to the socio-economic development of territories is an indispensable function of any state. The characteristic features of the state regulation of municipal development are reflected in the history of most countries. In this process are involved in varying degrees, all state institutions as their work, anyway, is tied to a specific territory.

Considering the macro level management may be noted that the state is the guarantor of the stability of the socio-economic system of sub-regional locality. The most important instrument of state influence is the legal regulation, which is expressed in the adoption of the law aimed at bringing into compliance with public policy objectives of various public relations. The central place here belongs to the industry of the constitutional and administrative law.

### 3. CONCLUSIONS

Functions and controls at the regional and municipal levels (macro-level management) are sufficiently wide and varied and include both economic and organizational forms of influence on the processes of social and economic development of the territory.

At the end of the article the material is advisable to make the following conclusions. For the current levels of economic management in the region, despite the generality of solved problems at all levels, characterized by the objective contradictions associated with the difference in the perception of the object of control. Tools impact on economic operators should be classified not only on the direct and indirect (as it is traditionally done in the economic literature), but also on the formal and informal. This classification is of great importance in view of the specifics of the region, which is characterized by a greater role of informal relations. The effectiveness of the control region is caused primarily efficiency of interaction between different levels of government.

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# Research of Category “Motivation” as a Basic Tool of Personnel Management

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## ABSTRACT

According to authors such as Zhuravlev, Odegov, Shekshnia, Solomandina, complex model of Porter - Lawler is the best among the procedural theory, which argues that the motivation is not a simple element in the chain of causality. It is within a single system integrates a large number of concepts (effort, ability, results, compensation, satisfaction and perception). However, it appears that the limitation in this theory is still present. The theory is based on the principle of complexity that is not fully realized because the model does not reflect factors such as the needs, interests, and others. From domestic developments in the field of motivation is best known typological concept of Gerchikova. It focuses on issues of stimulating effective work performance. The concept is based on the idea of the author of motivation, as the prevailing (and therefore not situational, stable) and perceived human motivations that determine the behavior of his labor.

**Keywords:** Personnel Management, Motivation, Incentives, Efficiency of the Enterprise

**JEL Classifications:** M12, D61, P13

## 1. INTRODUCTION

Consideration of the application threads must begin with the interpretation of the economic categories of “motivation.” Thus, the “motivation” (from the latin “movere”) - is to urge edition; a dynamic process of psychophysiological plan to control the behavior of man-eating, by its direction, organization, activity and stability; person’s ability to actively meet their own needs (Motivation, 2015). “The potential productivity” - calculated value that shows how much product can be released in the theoretically achievable in these natural conditions at this level of civilization (e.g. best of the having on the market of materials using advanced technologies and installation of the most modern of the existing market equipment), if all the delays and the delay will be reduced to zero (Workforce productivity, 2015).

It should be noted that the change (up or down) Flow rate of labor forces to man, the effectiveness of the work of which is

determined, it is heavily concentrated his motivation, in particular labor motif, under certain conditions of work and the use of advanced technologies.

According to experts, the range of human aspirations and desires of such a huge motivation to work in the preceding that measure it just is not worth the money (Maksimtsov et al., 2015). It is no accident today, many business leaders in the process of hiring a potential employee trying to figure out his inner motivation. Leaders are not against high wages, but it must be sure that the co-staff member, first of all, is not motivated by love for the big money, and the interest in the new case. If we compare the practices of Japanese and American management, it may seem that their “creators” adhered to the principle of “do the opposite” because Liu-fighting element of management practices demonstrates the opposite approach (The great thinkers of the West, 1999, p. 88).

Getting to the consideration of aspects that characterize the labor motivation, we must first determine the meaning of the term "motivation" imposed by Schopenhauer. He first used this term in his article (Schopenhauer, 1900). "The four principles of sufficient reason" (1900-1910). Then the term "motivation" was widely used in everyday life scientists to full and complete explanation of human behavior. Beginning in 1920. There are first motivation theories describing the behavior of human labor. Work motivation is widely used in control theory.

In addition to the basic functions of management (planning, management, accounting, control, analysis), the motivation of employees included in the block of the urgent tasks to solve the problems associated with the need to improve productivity and quality control.

In our opinion, the motivation - the concept is interdisciplinary, since it is widely used in various scientific fields (labor economics, sociology, law, etc.). This leads to a great diversity of its definitions. Obviously, the complexity of interpretation in this case is predetermined by the complexity of the motivation as a process and phenomenon. Therefore, we consider it necessary to consider the content of the term "motivation" in the framework of basic concepts: Motivation, incentive, motivational structure of personality, its needs and interests, goals and related expectations, values motivational sphere workers.

## 2. RESEARCH METHODOLOGY

The study used the methods of analysis and synthesis, groupings and classifications, system analysis and scientific observation.

Working hypothesis was the assumption that efficiency gains generated in the enterprise organizational and economic system of motivation is the direction of productive activity of employees of enterprises in the conditions of post-crisis recovery of economic activity.

The practical significance of the work lies in the fact that its position on the concept and the formation and development of system of motivation of employees form the basis for the effective functioning of the enterprise in modern economic conditions.

## 3. MAIN PART

The essence of the motivation lies in the fact that the individual is the subject of motivational relations, which has a set of needs and motivational systems. They determine the type of behavior that is created under the influence of a set of external and internal factors, and management actions. Thus, the motivation appears to us as an objective process where interaction of the subjects of labor and the environment. Since the labor motivation is aimed at reducing production costs, the impact on the motivation of the labor process, from an economic point of view, helps to reduce the difference between a productive time worked and the amount of paid time.

Motivation is inextricably linked with the needs of the person (employee). The needs in the "Dictionary of Russian language" Ozhegov understood "the need, the need for anything requiring satisfaction" (Ozhegov, 1972).

In the first section, particular significance to study basic interpretations investigated category of "need." Table 1 shows several interpretations of the concept of "need," clearly showing the closeness of views of foreign and domestic researchers.

After analyzing the content of the term "need," it should be noted that the points of view of scientists do not always coincide. Nevertheless, they contribute significantly to the definition of the essence of human needs and a comprehensive examination. Thus, we can formulate its own definition. Demand - a phenomenon of a permanent nature, reflecting the internal state of the individual, his conscious or unconscious feeling of need for certain comfortable and safe conditions of life and work, and sufficient funds in his opinion, for their own development.

After studying the needs, it may be noted that every person at some point in their lives tend to the large number of requirements. These needs may belong to completely different categories, but somehow they are always in a certain ratio to each other. The presence of these needs determine the motives, which determine human behavior. Motive (lat. "motive" - motion) - this is something that belongs to the stakeholders, what is it sustainable personal property, prompting the subject inside the commission of specific actions (Heckhausen and Heckhausen, 2010). That is, the motives are the very factors that make people able to perform a job. Thus, there is need for detailed consideration of the concept of "motive," defining it helps to understand more deeply the motivational structure of personality. Currently in the scientific literature there are a large number of points of view relating to the definition of the motif. Table 2 shows those that, in our view, most fully reveal this concept (Subbotin, 1999).

So, motives can be described qualitatively and quantitatively. Qualitatively motives are divided into internal and external (with respect to the content of the activities). Quantitative characteristic of act degree of its manifestation. Each of the separate motives shall contribute to the overall motivation of activity, both positive and negative. There is reason to believe that the number of motifs is activated and guides the activities, determines the overall level of motivation. However, in the overall level of motivation and it makes a great contribution to each individual motive.

In classical and foreign literature on the motivation of the economy it has different meanings. Consider how interpret this concept encyclopedias and dictionaries of economics and management (Table 3).

Thus, we can identify a number of key points found in the above interpretation of the concept of motivation (motivation to work):

- Incentive to active employment;
- Needs through work;
- The process of creating incentives;



**Table 1: The approaches to the definition of “need”**

Author (source)	Definition	Comments
Ilyin (Ilyin, 2003)	Need - reflected in the establishment of needs, often experienced as internal stress and encourages mental activity associated with goal setting	The need is impelling the beginning. However, it is doubtful that the author interprets as a reflection of a need need in mind. It appears that in addition to the needs of conscious nature, and may be unconscious
Brentano, 1921	Need - every negative feeling, coupled with the desire to eliminate it, by removing the dissatisfaction caused by its	The demand is considered as a negative feeling. However, in certain specified active character needs: A clear link the needs and aspirations of its suit
Romashov, 2015	Need - individual care of providing for themselves the necessary means and conditions of a decent existence and survival, the desire to maintain balance with life and social environment	This definition provides the broadest interpretation of the needs from the perspective of the theory of systems: Any system (including man as a biological system and the social element) has a mechanism of homeostasis - the evolutionarily developed the ability to maintain stability under the influence of destabilizing factors external and internal environment
Ozernikova, 2001	Need - the internal characteristics of the subject, reflecting a sense of need (conscious or unconscious) in the objective conditions, objects, circumstances, etc., Required the subject to maintain its existence, operation and development	This definition is based on a systems approach, but unlike the previous one, is more complete and specific

**Table 2: The approaches to the definition of “motive”**

Author (source)	Definition	Comments
Psychological dictionary (1990)	Motives - a set of external and internal conditions that cause the activity of the subject and determining its orientation.	The correlation of motives with external and internal conditions. Controversial is the fact that motives determine the course of action, since the activity defined objectives
Burns (1999), Ushakov (1999), dictionary of foreign words (Ozhegov and Shvedova, 1999; Krysin, 1998; Vasjukova, 1999; Modern dictionary of foreign words, 1992)	The motive - a motive reason, a reason for any action	Motive is considered as an incentive, a reason for the implementation of the action, but there is a clear relationship with the action. Therefore, it will best be assumed that even in the presence of the motif, the action cannot be realized and
Yadov (1982)	Motive - a concrete incentive to action, inner impulse activity, the essence of which is the desire to meet the needs and requirements of the specification, all available for individual forms and conditions	This definition is more specific, designated by the link between motivation and the desire to act. The motive is understood as an inner impulse, the impulse to activity
Adair (2009)	Motive - inner desire of the individual, is not always fully informed, often half, having a clear effect on the will and causing action	The motive is described as an inner need, desire, having an unambiguous impact on the will of the individual. In this definition, the author of the motive designated causation: Motif-will-action. This addition explains the possible cause of the “gap” between the impulse to real activity and human actions
Leontiev (1983)	“... Only as a result of the meeting needs to tell her subject, she first becomes able to guide and regulate. Meeting the needs of the subject of ... an act of objectifying needs - filling its content is drawn from the environment. This translates to the need for proper psychological level, i.e., in tune”	The author presented and described the tune as an ideal way of existing in the human mind. This energy-rich image of what a man is so necessary for his perfection

- The dynamic process of the formation of a motive;
- Purposeful actions of the individual;
- Certain set of factors (the causes, processes, internal and external driving forces, mechanisms, incentives, etc.)
- Human behavior is directly related to the root causes of his behavior;
- Creation of conditions and the choice of certain methods to achieve goals employee.

Despite the fact that the interpretation of the concept of motivation are quite different, it is possible to note the common features of the

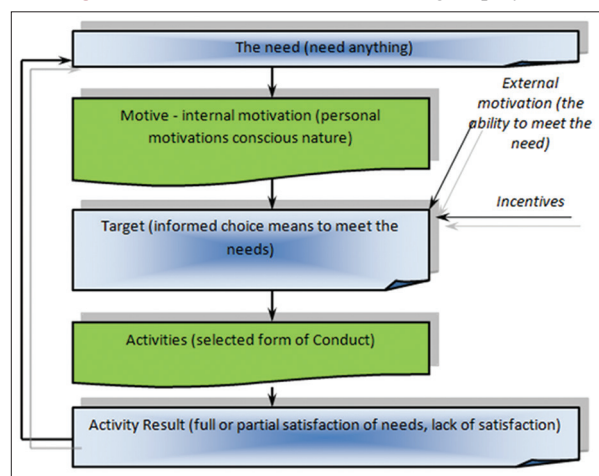
concept. The motivation of all actions aimed at achieving certain goals (individual or corporate) for greater efficiency of employees. So, every motivation to have specific goals.

Consider the example of a schematic display of the mechanism of motivation (Figure 1).

Analyzing Figure 1 it can be noted that the choice of forms and methods of motivation is important to consider the motives of the person (employee), namely, his motivations, guides to specific actions. The main tasks of motivation include:

**Table 3: The definition of “motivation” in encyclopedias and dictionaries of economics and management**

Author of definition	Definition of motivation
Ambartsumov and Sterlikov (1993)	Motivation - the process of encouraging, promoting someone (an individual or group of people) in the activities aimed at achieving individual and common goals of the organization. Motivation is essential for a productive implementation of decisions taken and planned works
Vechkanov and Vechkanova (2002)	Motivation - motivation person to active entity (individual, social group, community of people) associated with the desire to satisfy certain requirements. On object saturation needs motivation may be material and spiritual, more detailed classification - economic, social, and ideological. By main activities are divided into the motivation of the cognitive-intellectual, practical and transformative, communicative, etc.
Borisov (2003)	Motivation - (1) an explanation, bringing the arguments in favor of any decision, action; (2) Encouraging the subject of the activities and how to initiate
Koch (1999)	Motivation - the reason to force people to work or to stimulate their energy
Zhuk (2008)	Motivation - the relationship between human behavior and the reasons that cause this behavior; a set of psychological phenomena, which reflects the presence in the human psyche certain preparedness guide to the goal. Unconscious or perceivable image of the target, which stimulates behavior orients it to meet specific needs, called motive. At the same purpose and motive are not the same
Manilovsky (1997)	Motivation - conscious motivation, commitment to perform certain actions to address the material, spiritual and social needs
Pass et al. (1998)	Motivation - the power or process that cause people to behave in this way, how they behave. The definition of work motivation can be considered as a factor in determining whether an employee is taking all the necessary efforts in order to achieve its performance goals
Baburina (2005)	Motivation - a set of factors that determine the willingness to achieve goals; what causes a person to act and behave in a certain way
Raizberg et al. (2006)	Motivation - external or internal motivation to the activities of the economic entity in order to achieve any purpose, there is an interest in such activities and ways of motivation, initiation
Kolesnikov and Dashkov (1994)	Motivation - the basic element of human interest - a conscious desire to certain actions to address the needs; a system of interrelated and interdependent reasons
Rumyantseva (2008)	Motivation - in economic science is one of the functions of management; selection of appropriate management practices and creating an environment in which the motives of artists contribute to the overall goals of the organization. Motivation is determined by two major factors - the system of remuneration and working conditions prevailing in the organization and the individual characteristics of the head (leadership styles).

**Figure 1: The mechanism of motivating employees**

- Each worker must be clearly formed understanding of the meaning and essence of motivation;
- Each head should be formed democratic approach to management;
- For workers and managers it is important to learn the basics of psychological organizational communication.

It is obvious that to successfully address the challenges outlined above requires a detailed analysis of the entire process of motivation in the company. If there is a relationship between the individual and group work motivation, it is necessary to explore

and strengthen this relationship. Motivational activities of the employee must be changed every time a change occurs in the workplace and the environment surrounding it.

Before we consider in detail the theory of motivation, should analyze classical scientific approaches to the study of motivation. The first attempt, in the study of aspects of human activity and to determine its causes were the works of ancient philosophers - Platon, Aristotle, Democritus (The great thinkers of the West, 1999). Platon identifies the causes of human behavior and divides them into two categories: Lower (start longing) and the highest (of passions of the soul). Aristotle attempts to classify the motives of human activity. He first proves the connection between human behavior and its objectives. Democritus lays the groundwork for materialist determinism and enters into scientific concept of cause (Bogomolov, 1985).

After a fairly dynamic development of the doctrine about the causes of human activity comes a long period of feudalism and the Renaissance, when all knowledge is based on knowledge and an excellent understanding of the Bible, it is strictly prosecuted. Only in the XII-XIII centuries. the ideas of Platon (1971), Aristotle and Democritus are developed in the writings of scholars like Descartes, Condillac, Holbach, Spinoza and other philosophers. During this period, as the root causes of human activity are beginning to address the needs. In his famous “treatise on sensations” Condillac describes in detail the mechanism by which the needs of human activity (Condillac, 1982).

In the XIX century, questions of motivation are the new subject of study, only the emerging science - psychology. During this period, a great influence on the development of ideas about motivation have evolutionary theory of Charles Darwin and the theory of instincts McDaugoll and Freud. Widespread recognition of these theories is obtained in the XX century. In their behavior is considered a purely biological position. These theories explain those manifestations of human behavior, which are caused by the influence of innate unconscious instincts. However, the theory was not able to describe those aspects of human behavior that are acquired through training and experience.

In XX century, understanding of the problems of motivation gets practical importance in economic science. The study of human needs leads to two global theories of motivation. They are divided into: Substantive and procedural. Substantial theories of motivation are based on the identification of those inner impulses, called the needs that make people act the way they do. Devoted to this work: Maslow, McClelland and Herzberg, Alderfer, Yadov, Lewin (Maksimtsov et al., 2001).

The division of labor motivation in the determination of the types and in this regard, methods of stimulation, give our opinion, the concept of typological Gerchikova applied focus. The underlying theory of motives and ways of influencing them are of considerable practical importance for today's leaders. A wide range of instruments of motivation involves internal and external factors of motivation that will ensure more efficient use of labor resources at the optimum combination of motives and incentives of employees of the enterprise.

Thus, the above procedural theories of motivation can determine a list of basic motivational components that are most often used by authors to describe motivation as a process. These components are: The ability of the worker and his expectations, both internal and external rewards, goals, and satisfaction from their achievements, employee awareness of its own role in the labor process, the perception of fairness (or vice versa, injustice) in relation to itself. Remedial theories of motivation are more versatile compared to meaningful as they explore motivation as the process of changing the state, form a labor behavior, which provides greater efficiency of the employee.

It is said that the content of the theory of motivation (Herzberg, McClelland, Maslow) focus on finding the optimal structure of the list of the needs of workers. An important beginning, a call to action is the worker's needs, which are presented as a conscious lack of something, which in turn causes a call to action. Need - is a conscious lack of something that causes the urge to rational action. The theory shows that genetically laid primary needs secondary - formed during cognitive activity and practical experience.

Within the theoretical study found that procedural theory identifies needs motivating role of the employee (person), yet his motivation objective content viewed from the perspective that sends an employee to intensify efforts to achieve multiple objectives.

We emphasize that the theoretical model Lawler - Porter based on the understanding that motivation serves the needs, makes the company's employees expect fair remuneration of their labor. According to the model designation is the effectiveness of labor satisfaction, and not vice versa, as the advocates of the theory of human relations. The main meaning of the theory: The central element - the remuneration and the degree of certainty - a level of effort, the appropriate level of remuneration.

The foregoing analysis, the main areas of American and Japanese companies in the motivation shows components of a modern, universal approach to motivation:

1. Long-term ties with the company's employees. With increasing duration of these bonds are increasing opportunities to optimize the motivation system. In Japan, it is implemented within the lifetime employment, and in the leading US corporations are motivated by long-term relations relevant material and moral means to improve productivity.
2. Constant and general education and training of personnel. High rates of technological progress cause an increasing rate of "amortiza-of" knowledge. Therefore, a process of continuous in-house training, training and retraining, as well as regular training is not a pre-continuously. This increases staff motivation, because worker with a high-Coy qualification is the most valuable frame for the enterprise and, respectively, brings greater productivity.
3. Broad participation of employees at all levels in the administration. This part has a different configuration from the delegation of employees to higher management bodies to the government workplace. Self-management is manifested in the fact that the executive-Tieliu (within its competence) in the workplace have the right to self-parking-enforcement to carry out the planning, organization, control and management productivity, labor productivity. He is right to make and implement solutions to optimize their productivity.

The main approaches to the motivation and productivity in the United States, Japan, you can clearly see the causes of this rapid and that much important, stable economic development (including the manufacturer of the labor). Each of these countries has found for itself a reasonable proportion of mothers and intangible approaches to motivation. This balance is built on the principle that the two approaches complement each other. Counting on Persian-cash, spatially localized economies of these countries and still achieve good results.

The question of why, in practice, the global model of motivation and did not take root in Russia, modern scientists have not agreed to a common opinion. Scientifically all believe that the fault of the mentality, traditions that have historically folding the centuries, other researchers, who believe that Russian leaders still simply "not mature enough" to the proper professional level that would be able to not only adequately assess and correct apply the techniques of Western Motivation work. One of the main reasons is the poor supply of provisory reforms necessary personnel capable of non-traditional, high-pro-level professional to solve complex problems of transition to a market economy. Every solution of the problem should contribute to an elaborate

system of work motivation of labor, which is generally reflected in the productivity of labor.

The current system is inefficient increasingly obvious, any radical changes are undergoing. Russian leaders believe that only money can fully regulate labor productivity. While the West has long taken into account the social aspect of the question. Foreign practice motivation originated much earlier than Russia, and through trial and error got to that level, which is now trying to master and implement many spatially localized economies. Meanwhile, over the last 20 years in the world of work motivation management underwent major measurable ion. And these changes have helped many foreign countries to raise their economy on a high level. However, an increasing number of domestic enterprises, enterprise takes attempts to introduce the concept of foreign labor motivation. These efforts are not always, or rather, almost never ends well. Often, these failures do not depend on the socio-economic conditions, which remains the enterprise, and directly from the warehouse of the mind and character of a leader.

In Russia, most business leaders do not consider it necessary to invest in their employee's money and knowledge, because return process takes a long time and it is not always come quickly. Plus, the highly qualified staff may require increased labor costs, and this is not one most coveted item of expenditure. At the same time, the management as it does not want to understand that the more invested in personnel, the better it works, more profitable and, consequently, the company takes on a more competitive level. Understanding this proportion becomes almost the main issue for local leaders. It should be noted that in recent years become a popular training areas for senior and middle managers, in the course of which explains the benefits of foreign practice of motivation, a method of implementing complex systems of motivation or individual elements on Russian companies.

Despite numerous attempts to wrap foreign experience in motivation from the theoretical to the practical, it becomes obvious that in Russia such a motivation system to settle down very hard, but this does not exclude the fact that you can borrow and implement the most suitable to our approach in the management of labor motivation, the individual elements of the American or Japanese model of motivation.

#### 4. CONCLUSIONS

Thus, we select some of the best practices of international practices to increase motivation:

1. Introduction of the shifted schedule. The company's employees have the opportunity during the week (month) to freely dispose of their working time, which is useful in everyday life, eliminates the tension on production due to the impossible-opportunity at the right time to solve their everyday problems
2. Bonuses time. Employees are given the opportunity to perform the application of the rules at the time at which they are able to do so. Surplus-time worker can be used for its intended purpose
3. The introduction of fees for rationalization proposal for which you once, pays the fee
4. Introduction of the annual staff appraisal. By special program and methodology to assess the number and quality of work for the year. From the results of independent certification and assignment of a Christmas bonus of the next class, discharge, etc.
5. The annual competition of professional skills. The contest is held by individual mass professions
6. Informal communication in the team. The practice of regular informal meetings, to help rally the team, allow to allocate the informal leader, through which further questions can be solved by workers.

Thus, it is not surprising that the lack of motivation to work is ranked third in the list of reasons for preventing the growth of regional business spatially localized economies. The manager must be aware of the importance of motivation, that it affects the productivity of the enterprise as a whole. In addition, the experience of Western leaders show that success is achieved by those who not only puts the task subordinates or by any means to pursue them, and has the ability to be interested, light, inspire staff to perform the tasks of the company, to form a team of like-minded. This means that the motivation of employees in production today is the economic basis of high productivity.

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## Features of Preparation of Creative Professionals in the Educational Environment of the Modern University

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### ABSTRACT

This paper presents a systematic approach to the problem of forming creative professionals in the context of university education. The essence of creative and innovative economy of the information society, the hierarchical structure of its intellectual potential. The representation of the creative class and its role in the development of modern society, about the possibilities of this new class due to its particular set of qualities, properties and characteristics. The role of modern educational institutions in the training of creative professionals, the necessity of the implementation of a number of areas of restructuring the education system to ensure the transition from education to the advanced ascertaining and perspective, reproductive education for creativity. Special attention is paid to the environmental factor and its role in shaping today demanded professional creative person. Characterize the structure of the information-educational environment and its components. The concept of the model and creative educational environment, the ways and means of transforming the current educational environment in the creative environment of formation of creative professionals.

**Keywords:** Informational and Educational Environment, Creative Professional, Creative Class

**JEL Classifications:** G32, O30

### 1. INTRODUCTION

Today, humanity is undergoing a series of deep transformations, changing the face of civilization as a whole. In a number of countries, including Russia, a transition to the stage of the information society, which is dominated by knowledge, science and culture, intellectual work. The priority is innovation and service business, are becoming more common information systems and technologies.

In the new stage of development of mankind's economy gradually gets creative and innovative nature and is characterized by:

- Continuous innovative development;
- Increasing role of human capital;
- Introduction of new methods and ways of managing human capital and intellectual and creative resources of the enterprise;

- Competition based on innovation;
- Hi-tech production;
- Free, focused and effective exchange of creative energy among all market participants (Belokrylova and Dubskaya, 2013; Kuzin, 2014; Furin, 2014).

The hierarchical structure of the intellectual potential of the creative economy can be represented by the following levels:

- Human: Health, education, professional experience, intelligence, initiative, standard of living;
- Process: Modern technology in the field of education, health, economy, production, management, the social sphere;
- Innovation: Areas of basic and applied R and D funding, innovation, intellectual property protection;
- Infrastructure: The infrastructure of education, science, health, industry, finance, communications;

- Structural: Economic levels: Micro, meso and macro levels, the structure of society, parties, unions, associations, public associations;
- International: Image and competitiveness, international relations, political and economic influence (Furin, 2014; Atanasyan, 2009).

Thus, the intellectual potential of every individual in a creative economy is the total stock of domestic assets of the person, which allows to operate on the basis of modern innovative technology that meets the institutional requirements and aimed at the development of the structural elements of the economy and society, and the implementation of effective interaction.

## 2. RESEARCH THEORY AND METHODS

### 2.1. The Role of the Creative Class in Modern Society

Today, the economic and social “arena” comes a class of people whose primary function is to create new ideas, knowledge, technologies, solving complex problems and challenges.

This class is called “creative” (creative class) and includes a subclass super creative kernel, which includes representatives of the professions in the field of programming, mathematics, architecture, engineering, science, education, art, design, and creative professionals realized in managerial occupations, business, finance, law, medicine (Belokrylova and Dubskaya, 2013; Florida, 2005).

The creative class is the key bearer of the creative qualities of innovation-oriented economy, the new owner of the means of production and non-material resources, one of the main competitive advantages of any company. It is an important factor of influence on the world of management, professional activities, communications, and the world of everyday life.

Features of the creative class as a “global drive” socio-cultural and economic space due to a distinct set of qualities, properties and characteristics. These include personality, originality, independence, constant openness and sensitivity to the new, the desire and the ability to innovate and transform the constant generation of ideas, intellectual activity, intuitive thinking, creative imagination, synergy, social orientation, altruism, the ability to work in a state high uncertainty and volatility, risk tolerance, multiculturalism, the ability to cooperate, self-esteem, the need for self-development and self-actualization, reflexivity, etc. (Barysheva, 2012; Lobanov and Naumov, 2013; Florida, 2005).

About free, independent and creative essence of creativity, creative personality writes Kuzin: “... in the work of eliminating the need for violence and coercion, creators naturally and endlessly create, enhance and distribute themselves, they are nothing and no one take away and did not suppress” (Kuzin, 2014).

Due to the active penetration of creative human capital in modern social and economic system of the world is becoming much richer, more diverse, and adaptive.

Creative class - a long-term resource of successful establishment and development of post-industrial information society and, most important accumulation of human civilization, which only need to multiply and protect.

The increasing role of the creative class as an engine of social progress, the importance of the subject, providing the transition of society in the post-industrial area, poses the problem of preparation of creative specialists as a matter of priority, professionally solved, first of all, all the educational institutions.

That the education system must meet the public demand for creative people, creative professionals, and continue to reform itself towards the creation of optimal conditions for their training.

Today, education must implement the concept of human capital, which includes professionalism, individual development, intellectual potential, and professionally significant personal characteristics.

For its formation requires an appropriate educational environment, methodology and organization of education, its educational potential. All this requires intensive use of new educational technologies, creative approaches to the construction of the educational process. Chief among these is the transition from education and information subject to professional business, by ascertaining for anticipating and perspective, from reproductive to creative.

This aspect is very important; we believe the following areas of restructuring the education system:

- Public recognition of the necessity of formation of creativity as the most important factor in the formation of a modern society;
- The establishment of a system of knowledge and a holistic view from the position of various sciences about the nature of creativity and its role in the development of the individual and society, pedagogical conditions, factors of its formation;
- The development of new value-ideological, methodological, technological base of the formation of the new approaches, models, methods, means and forms of creative training and education;
- The revising state standards of training, a set of competencies under the creative component of professions and specialties;
- The establishment of schools of creative media education aimed at developing the creative potential of all its subjects;
- The development of creative competence of students, teachers, representatives of the administration of educational institutions;
- Anticipatory creative learning, based on the long-term vision of new professions and occupations with high creative component.

### 2.2. Environmental Factors in the Formation of the Creative Person of the Modern Professional

An important role in the formation of the creative person has a protection factor. The full use of the possibilities of the

environment contributes to the personality of its free and active self-development, making it the product and the creator of its own environment, giving the vital foundation that makes it possible intellectual, moral, social and spiritual development.

Wednesday is a set of phenomena, processes, conditions affecting the studied object and ensuring the development of an individual on the basis of active existence in this environment, interaction, mutual influence and interaction of the subject with the environment (Litov, 2011).

The importance of the environment in the development of human emphasized more ancient scientists - Aristotle, Plato, Democritus, Herodotus, Hippocrates, Polybius. Huge contributions to the environmental development subjects have Rousseau, Spencer, Levin, Fromm. It is important to take the place of scientific ideas Mamardashvili determining role of social environment in the development of a creative personality.

Today the environment is a subject of study in a variety of scientific fields - philosophy, sociology, pedagogy, psychology, cultural studies, etc.

In recent studies of the educational environment (Buhvalov, Krylova, Noskova, Rubtsov, Slobodchikov et al.) Highlights the issue of studying the environment as a source of cognitive and personality changes, means development of educational institutions, the creation of conditions and tools for building a learning environment for the optimal development of individual students. Developed principles, approaches and methods of designing such an environment, monitoring, and psychological and educational assessment (Krechetnikov, 2003; Meng and Labunskaya, 2001).

Targeted and systematic formation of the creative person is carried out in the educational environment, which in the broadest sense, a subsystem of the social and cultural environment, and a collection of historical facts, circumstances, situations, and the integrity of specially organized pedagogical conditions of development of the individual.

In its ideal essence of the educational environment of the institution shall disclose the necessary capabilities and capacity of the creative potential of the individual by virtue of its decisive influence on the nature of the creative personality, performance and functionality of the target in the context of contemporary culture society (especially creative-oriented).

It acts as a diverse multi-cultural education for each individual student, and containing material, spatio-temporal, social, and communication resources for building self-concept, self-actualization, the accumulation of personal experience of communication, interaction, activities, reflection, stimulates growth, self-development and self-improvement.

Informatization of Education System allows new features to make the educational environment, significantly expanding its educational and training opportunities.

At the present stage of methodological development in the field of information educational environment defined the concept of "information educational environment," "educational space," "educational environment, realized on the basis of information and communication technologies," "virtual learning environment," "information educational environment," "information and communication educational environment," etc. (Grigorev, Zenkova, Kuznetsov, Pozdnyakova, Robert, Tryapitsyna, Kalmykov, Hachaturov et al.).

Definitions educational environment are presented in the works of many authors (Andreev, Ilchenko, Kalmykov, Korotkov, Litov, Marchenko, Nazarov, Ostroumova, Putilov, Rakitina, Sokolova, Soldatkin, Tumkovsky, Hachaturov et al.)

The concept of informatization of education of the Russian Federation determined the informational and educational environment as a system-organized set of means of communication, information resources, communication protocols, hardware and software and organizational methods, oriented to meet the educational needs of the users.

The structure of the educational environment, as a rule, are five blocks - value target, software and methodical, information and knowledge - communication, technology (Meng and Labunskaya, 2001).

Value-target block includes a set of goals and values of teacher education, which can be significant for the development of achieving the goal of learning and teaching.

Program-methodical unit contains all the necessary information regarding possible strategies, forms and training programs.

Information and knowledge-block includes a system of knowledge and skills of the student that form the basis of his professional activity, as well as defining the properties of cognitive activity affecting its efficiency. In addition, it points to the role of information in the training.

The communication unit includes forms of interaction between participants of educational process.

Technology unit includes learning tools used in information and learning environment. In particular, the use of new information technologies, including telecommunication networks.

Design, development and use of information educational environment of the institution should provide the subsequent smooth integration of information across different educational institutions into a single information space of educational system of vocational education.

An important component of the educational environment is a software methodical complex, aimed at informatization of educational activity of the institution. Design, construction and operation of the educational components should be carried out in strict compliance with the extensive set of requirements and



recommendations of the psycho-pedagogical methodological and technological.

An integral component of the information educational environment should be measuring, evaluation and control of knowledge and skills of students and applicants.

There are several aspects of the computerization of the measurement, evaluation and control of the level of training, speaking in favor of the allocation of appropriate ICT as a separate component of the environment. Such aspects include a sufficiently broad class of computer tools, specifically designed to automate the measurement and control of knowledge, not directly fit into the system of formation of the educational components of the environment.

Aspects of the scientific and methodological scope of educational institutions generate separate line implementations of ICT. The need to allocate part of the special components of the environment, integrating the disparate means of information research and methodological activities carried out by teachers.

The corresponding component of the medium must not only provide the means of access to information resources, significant from the point of view of scientific activity, but also provide the tools for bibliographing, processing, storage and recording of information fragments that are important from the point of view of ongoing developments. Such funds may be helpful in organizing remote interactions of teachers in the field of scientific research (Zakharova, 2003 and the role of the creative environment in the formation of the creative personality in its ontogeny, <http://www.info-library.com.ua/libs/stattya/5721-rol-kreativnogo-seredovischa-u-formuvanni-tvorchoyi-osobistosti-v-yiyi-ontogenezi.html>).

There are also extracurricular component of the information educational environment. The scope of extracurricular activities of the institution in practice takes advantage of ICT is rarely and unsystematically.

Information technology able to rise to a higher level of extracurricular activities which are not directly related to the main content of the training activity. Obvious usefulness of computer telecommunications in extracurricular interpersonal communication.

In these areas, the quality and the level of content and methodical elaboration of appropriate ICT depends strongly on the educational effect of extracurricular activities.

The major information resources that make up the extracurricular component of the information educational environment should be a means of informing students and teachers about planned or conducted extra-curricular activities, information tools support the activities of the curators, information support for communication students, information tools needed to carry out cultural and sports activities, funds Management of extracurricular activities in school (Novikov, 2003).

Wide scope of application of ICT is an organizational-administrative activities of educational institutions. Its automation used by many software systems and shell - employment planners, the accounting system, the means of calculating teaching load and billing, electronic database of teachers, students, training tools, and many others.

In the simulation, the design and layout of the information educational environment is worth the allocation of specialized components, integrating information resources, automate processing and transfer of information within the organization and management activities of the institution.

Construction of information educational environment of the institution and its use in education will have an effect only in the case of formation of readiness of teachers to appropriate professional use of ICT tools included in the environment.

In this regard, it is necessary formation of psychological readiness of teaching staff and the administration of educational institutions in the activities with the environment, training of teachers, students operating environment with information resources, training for the operation of individual components needed to organize the exchange experience.

It should conduct scientific conferences, seminars, round tables devoted to the development and operation environment in the context of the system of higher education.

### **2.3. Creative Learning Environment: Concept, Requirements, Characteristics, Features of Functioning**

Formation of the creative person as a direct objective of training and education, strengthens the creative function of the educational environment, determines the need to create conditions for the development of creativity and creativity of students, turning them into active subjects, builders with the degree of self-esteem, openness, acceptance, freedom of judgment, opinions, views and ideas.

Thus, the educational environment is transformed into a creative learning environment - a multidimensional, individualized, self-organizing integrity, designed to create conditions conducive to the development of creative abilities of students, and to ensure their self-realization and personal growth (Krechevnikov, Litov, and Lepsky).

The overall aim of the functioning of the creative educational environment of high school Krechetnikov sees the creation of the conditions most favorable to meet the needs of each individual, preparation of high-cultural, moral and physical health of highly qualified personnel capable of independently and competently to solve the problems of managing people and technology, quickly oriented in difficult situations, having creative thinking, active lifestyle, the skills of self-education, self-education and self-examination (Krechetnikov, 2003; Krechetnikov, 2004; Krechetnikov, 2002 and Maltsev and Shibkova 2010).

We consider it necessary to introduce his own definition of creative learning environment. According to our understanding, creative

learning environment - a multi-component, integrative, variability, adaptive, dynamic education, creating and implementing a system of conditions for a self-actualization and development of the student as a creative person, an active subject of the creator, capable of producing creative ideas, projects, technology and products.

In this definition to focus on the most important characteristics of a creative educational environment and the formation is a creative and not a creative person, a person of high social efficiency and productivity.

In this environment, as key objectives in favor of the formation of knowledge and skills in the field of organization of independent, creative work, creativity, creative thinking and the formation of a creative personality, values and motivational core of such a person.

Our model of creative educational environment (Zlobina, Eliseeva), illustratively presented in a joint monographic work. "The use of information and communication and multimedia technologies in education" (Ilina et al., 2011) is allowed to allocate its basic function blocks. To these we carried a block of goal setting, organizational-activity unit, a creative performance, control and evaluation and correction blocks (Krivykh, 2001).

In the block of goal-setting creative information and educational environment (CIEE) built an entire subsystem tasks as accurately covering the necessary components focus on the development of the creative person and the use of all this to facilitate the learning process capabilities.

Organizational-activity unit CIEE implemented in accordance with the set goals and outline directly creates conditions for achieving them. To them we include the regulatory and technological controls the establishment and functioning of the information environment; approaches, methods, forms and means of establishing a creative educational information environment; hardware and technical facilities and information infrastructure CIEE; software for automation of various services, software and methodological support for the organization of the educational process; information resources of educational institutions, etc.

Implemented organizational-activity unit model allows you to actively operate creatively productive unit, as created and operating creative educational environment must "produce" a kind of creative products - ideas, hypotheses, opinions, concepts, projects and other derivatives of the specially organized in the information environment the creative process, estimated as creative results and produced both by teachers as samples and results of operations, as well as by students in joint activities with the teachers in the course of specially organized collective creative activity (Ilina et al., 2011).

Test and evaluation and corrective CIEE units are implementing educational goals and objectives, but also related to the productive unit for evaluation of the degree of efficiency of the results of creative students, their degree of artistic maturity, the nature of the process of formation of the creative person in a specially created educational environment.

System diagnostics productivity of creative information educational environment carried out in accordance with the criteria of effectiveness of information the creative environment of high school, as well as based on the results obtained by assessing the quality of creative products (Ilina et al., 2011).

Achieved results allow to evaluate existing deviations from the defined educational goals vectors and create a system of compensation protection as productive and creative at the level of situational measures or entire programs, systems and concepts include, if necessary, on any block in the model of the information educational creative environment, including, and blocks associated with goal setting, a correct targets. Allow to predict the further development of information systems with creative educational component.

Our analysis of an array of features and characteristics of creative educational environment offered by a number of authors (Eremina, Ilyazova, Krechevnikov, Kuzmin, Lepsky, Litov et al.), as well as their own vision and the results of empirical studies have allowed us to identify a significant number of the required properties and characteristics of a creative educational environment, to which we are: Integrity, transparency, continuity, adaptability, flexibility, multi-level, synergy, interconnectivity, continuity, multi-variant, inexhaustible, redundancy, uncertainty, problem, criticality, interactivity, being involved enrolled in independent study and creative work, the processes of self-knowledge and self-development, motivation on creativity and learning, variability at individual and collective, democracy, tolerance, humanity, morality, reflexivity, mentality, productivity, efficiency, etc. (Akhmetov and Kalyuzhny, 2002).

Formation of the creative person on the ideals of goodness, love, justice, respect, acceptance of others, the importance of knowledge, discovery, creativity's value and allows you to lay the ideological base that defines social transformative nature of the creator, the continuity of its movement in the direction of discovery and innovation, constant creative self.

Only by relying on the true values of human civilization and the man himself, constantly broadcasting them through creative educational environment, we will get a person with high social orientation and altruistic, with a predominance of motives high level - self-development, creativity, and accomplishment of discovery and enrichment of knowledge, implementation of innovations in the life enhance the public good, the harmonization of society - the person with the true essence of the creator.

Creative learning environment should always be open to the society, the public demands, trends in the development of science, education, business, economy, social sphere, new ideas, technologies, approaches, to adapt to the changing environment, filled with new meanings, functions, variations, and represents a separate educational projects carry a environmental ideas that you can offer to society, production, business.

The high adaptability of creative educational environment allows the individual interacting with her ability to learn to focus on the

society, clearly see the needs and interests, to take into account the vector of development of society and its main trends (Melnikova, 2006; Rubtsov and Ivoshina, 2002; Suzdaltsev, 2008).

Society becomes an interesting emerging among creative person, is gradually becoming the main object of attention, under which in the near future it will adjust his life faithfully serve, strive for harmony, incorporating into the stream of social development, filling his own energy, ideas and innovations.

Inclusion in the creative information-educational environment mechanisms problematic uncertainty controversial decisions, attitudes, positions, proposals based on critical, intellectual activity, independence, originality of ideas, the search for new, unusual removes the usual barriers “inert” perception of the world, fear changes and change, a constant desire to preserve stability, conservatism and simplicity, “blindness,” standardizing, paving the way students in understanding the changes taking place, all fundamental transition to a new unevenness human civilization - the era of knowledge, innovation, creativity, management, economics, education, science.

Creative learning environment should be a kind of multicultural education, having an individual character for each student, medium to build your own “I,” which provides the creation of conditions to update the student’s inner world, his creative growth, opportunities for self-realization, the transformation of the world and himself.

This environment should provide the ability to share with the teacher-tutor, mentor or independently form individual educational trajectory, optimum focusing on the possibility of self-discovery and self-discovery, activation of creative abilities.

In this environment, you need to create an atmosphere of creativity, freedom, internal looseness, democracy, equality, trust, openness, optimism, joy, attention, high empathy. At the same time there should be no harsh criticism and unfair assessment.

Creative person must accept and appreciate their creativity, to feel the support, interest in the achievements, the results available to take the initiative, express opinions, attitudes and feelings, to believe in their own strength and ability to have adequate self-esteem, to strive for reflection.

We need to encourage critical thinking, intuition, imagination, originality of the proposed solutions, strengthen commitment to an active self-realization, self-consciously self-creation.

Creating a creative learning environment with a set of these properties and characteristics we will:

- Make the transition from studying assimilation image of the world as a system of knowledge to the creation of image of the world as a way of thinking,
- Self-image as an active knowing and acting creative subject, the person with the vector of self-development and self-improvement;
- Implement strategies creative pedagogy and innovative psychology;

- Prepare a new class of creative professionals, capable of large-scale reforms and opening up, creating the conditions for a rapid transition to an era of knowledge, creative ideas and innovations.

### 3. CONCLUDING REMARKS

A creative educational environment in higher education is an important step towards the convergence of science, business and innovation through the effective training of a truly creative class of professionals capable of producing new ideas, programs and projects, active innovation, to the further development of creative management, creative economy, and advanced Russian science.

The possibilities of such an environment are related to the presence of a kind of launch pad for the personal development of students of different profiles in terms of active disclosure of their creative abilities, the formation of the required in various professional fields of creative and creative potential of the graduates, attracting at the stage of high school training success and tending to the development of talented young people to participate in the development of promising creative projects, ideas, suggestions, aimed at a significant creative element in their creation.

Creative informational and educational environment of high school - a major virtual marketplace, providing full coverage of theoretical and applied research in the field of creativity, personality, formation of creativity among representatives of various professions.

This platform provides an active testing of advanced methods and techniques focused on creative development of students, creates conditions for the formation of the creative team of scientists, pedagogical technologists, trainers and consultants to develop and adapt evidence-based and practice-oriented system of creative students.

In general, the creation of creative-oriented educational information environment in the higher education system is fundamentally changes the approach to the organization of training of students, giving the process of learning more application oriented, optimization and rationality, completeness of information, highly relevant in providing the necessary competence, dynamism and constant educational soderzhatelno- organizational flexibility.

In such a system of training clearly sees the meaning of subject-subject interaction between teachers and students, overcoming together stereotypes and formalism in the perception of the learning process, discovering the great value of the process of transmission and acquisition of knowledge and skills as a long-term foundation of the subsequent formation, professional growth and development specialist, personality is aware of the need for mandatory inclusion in a professional activity of creative and creative components.

Refocusing the modern system of education in the formation of the creative person creates a powerful base for its full development and self-realization, self-disclosure and harmonization, allows

the use of diverse resource potential of the individual, painlessly adapt to the changing social reality, to find new approaches to solving the problems and difficulties to develop and improve themselves, without fear of uncertainty and novelty, fun and full of life, preserving the physical and psycho-emotional health, providing, in general, improved procedural and methodological basis of human life creator.

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## Statistical Analysis of Key Criteria Identifying Corporate Cultures

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### ABSTRACT

The aim of this article is to revise main distinctions between corporate cultures of different nations. National corporate cultures have long been a point of interest for economists around the world. The question remains important nowadays as well, and will be so in future, since effective cross-border cooperation is one of the crucial factors, allowing attracting overseas investors. Modern researches have proven that both cultural and financial cross-national bonds are getting stronger these days, which leads to creating new paradigms of international cooperation across the globe. Author creates new methods, allowing analysing cross-cultural variance and statistically forecasting how effective will intercultural interaction be. These methods are then implemented to assess transnational cooperation and identify its specific traits on the example of Russia and its economical partners – countries that create the most of direct investments in Russian economy.

**Keywords:** Corporate Culture, Cross-Culture, Statistical Analysis, Geert Hofstede

**JEL Classifications:** C10, M14

### 1. INTRODUCTION

About 30-40 years ago the majority of cross-border communications were limited rather to official level of embassies and representatives, while these days, due to powerful globalization, interstate penetration has become more resilient. Current financial and cultural goals, imposed by transnational companies put more pressure on the process of global interconnection (Hatch, 2009). This relation is now considered from productivity and price/earnings ratio point of view, which leads to the fact that new technologies, marketing tools and management strategies are applied to transnational communication, in order to make it advanced, cost effective and result-oriented. These strategies are intended to turn cross-national cooperation in competitive benefit, which, rather often is one of the few remaining resources to make the company effective at the markets with tight competition. Poor corporate environment within the business is a major cause of personnel burnout, undesirable ethical problems, low employee productivity, drops in cost/revenue margin per capita, and overall rise in workforce involvement, compared to end product output (Denison, 2000).

Cross-cultural instability should also be treated as one of the most important, yet underestimated barrier for potential transnational investors, seeking for opportunities of venturing in foreign businesses. Even international merger and acquisition contracts may stop or slow down due to improper inter-company legislation, inability to adjust to corporate rules and guidelines, procedures and principles, adopted in the financed country. All the above stated factors may lead to a significant success ratio decrease for those business venture projects that tend to neglect cultural aspects, even despite severely scrutinizing the financial component of the project (Schein, 2010; Kotter, 2011).

That is why scientific researches on national corporate cultures and their international integration keep flourishing nowadays. Scientists, however, are far from getting to a uniform point of view on corporate cultures. Even the notion itself is considered in different ways (Stanford, 2010). For instance, Jaques treated corporate culture as a habitual and traditional way of thinking and acting, accepted more or less by all employees of a company; this way of thinking should be accepted by newcomers, so that they

could join the company seamlessly (Jacques, 1951). Ouchi called corporate culture a unity of symbols, ceremonies, myths, used to transmit values and beliefs, common in the peer group, to the new members of the group (Ouchi, 1977). Hofstede said that corporate culture is a group formalization of ideas and beliefs that is used to distinguish one company from another (Hofstede, 2007).

## 2. BASIS FOR QUANTITATIVE ANALYSIS

Most of those the above mentioned researches, however, are empirical and qualitative, consisting of verbal description being given to main traits of corporate cultures. Opposite approach, statistical, quantitative, is not as widespread and popular. This situation should be changed, in our point of view, since numeric, statistical approach is the one that will allow to exactly identify the characteristics of corporate culture, excluding subjective opinions and personal attitudes of researchers. Quantitative approach is scalable, it can be applied to corporate interactions of different sizes, from transnational corporations to small businesses. Furthermore, it allows to evidently differentiate the research object from other corporate cultures, identify those cultural paradigms, that create most of that differentiation and develop methods to minimize cross-cultural difference.

One principal reason for such a lack of quantitative researches on corporate cultures is the fact that research criteria for cultures have qualitative characteristics and can hardly be formalized in a quantitative way. One of the first, yet most competent researchers in the area of cross-cultural differentiation is Hofstede, Dutch scientist, one of the world best known scientists in the area of cross-cultural interaction, author of several books, including “culture’s consequences” (Hofstede, 1980) and “cultures and organizations” (Hofstede, 1997), that describe his approach to corporate cultures and made him one of the most cited globally social scientists.

Having analyzed main traits of different corporate cultures from the point of view of their major common and opposing points, Hofstede identified several principal factors, responsible for the classification, diversification and ranging of internationally cooperating countries. These factors are:

- Power distance index (PDI)
- Individualism (IDV)
- Masculinity (MAS)
- Uncertainty avoidance index (UAI).

The above listed principal criteria allowed the researcher to come up with the schemes of character assessment, flexible enough and representative enough to be applied on international level to more than 30,000 individuals from more than 90 countries worldwide. This polling allowed him to develop exact mathematical description of corporate cultures main traits, that lead to both purposeful and spontaneous creation of corporate norms and procedures. Further analysis requires a more detailed description of the four above mentioned criteria, developed by Hofstede.

PDI is the extent to which the society accepts or rejects social inequality. This criteria represents whether any given country accepts high distance between the layers of the society, as well

as within one company, since it thoroughly inherits the traits of the society it functions in. Companies, belonging to cultures with high values of PDI seem to be more united and vertically integrated, than those with lower values. Decision making process is usually consolidated in the hands of a small group of people, and remuneration inequity experiences high variation, depending on employee’s grade. Low qualified workers are usually at the bottom of the grading system, while highly qualified tend to achieve higher parts of corporate pyramid.

IDV, as opposed to collectivism, shows the level of group integration, appropriate for an individual. When the level of IDV is high, interpersonal bonds are weak. Each person has to be responsible for his own life level and for the one of his close relatives or family. Communities or corporate clusters are not tied to any individual employee, as well as the employee does not experience any connection to the employer. Vice versa, representatives of low-individualistic society tend to make group decisions. From the date of birth low-individualistic people are integrated in social clusters of different nature, and this remains true throughout their entire life.

MAS and its antipode, femininity, represent the roles, appropriate for men and women in the society, and whether they are flexible or not. Societies with low level of MAS tend to give more importance to cooperation and contacts with subordinates, being uninterested in managerial functions. Societies with high level of MAS demonstrate independence at decision-making, competition, self-confidence. In highly masculine societies man are to behave like breadwinners and providers, taking care of their families, and women are supposed to maintain the household and raise children. A feminine society has a more flexible approach to these regulations and generally accepts women, behaving in masculine way and earning money for the household.

UAI shows the level of social tolerance to insecurity and the unknown. It identifies human desire to find “absolute truth,” their trend to stay in peaceful harbor rather than face life obstacles and striving to achieve an uncertain result. In the societies with low UAI if individuals are willing to live without taking care of the future. Contrarily, the UAI is high in the peer group if individuals tend to care of the fore coming events, need to make plans for the future and have an opportunity, sometimes speculative, to make their own choices and decisions in life.

Basing on the abovementioned criteria, Hofstede created a method of personal testing, that allows to identify values of these criteria in the test subject. According to the researcher, these criteria are enough to identify the whole specter of existing corporate countries to the extent, sufficient to formalize basic corporate norms, and make further conclusions on the efficiency of cross-cultural cooperation, level of conflictness and the ability of different corporate cultures to assimilate each others, when subjected to the necessity of transnational merger.

Having performed a vast statistical research, Hofstede received formalized quantitative descriptions of corporate cultures, dominating in each of these countries. This research is used as a

base data source for my work. The key distinction is that Hofstede in his work hasn't performed in-depth quantitative analysis of the data received. In my view, however, it is the statistical analysis of corporate cultures that allows to identify cross-cultures that are both highly conflict (due to polar values of differentiation criteria), and low-conflict in cooperation, find similar and opposing cultural traits in terms of their reciprocal influence, identify and develop possible ways to minimize negative aspects of this interaction and develop measures that will allow to smooth possible initial conflicts and therefore increase productivity of cross-national merger both short-term and long-term.

### 3. ESTIMATING CROSS-CULTURAL DIFFERENTIATION

We have used several indicators to estimate cross-cultural differentiation. At first, we have calculated basic statistical indicators, starting with arithmetic average, mode, median values for the aggregate array of values, proper to all countries in the aspect of each individual criterion. These calculations have natural meaning, as they provide information for basic conclusions on the entire group of countries that were subject to Hofstede analysis. As an example, the values for PDI and IDV are as follows:

PDI has a minimum at 11 and maximum at 104, with the average value of 58 points, which is almost equal to the median value of the interval. At the same time, the mode of this interval is 80, much higher than the median. This can be proved by social aspect of this criteria – dictatorial regime with high level of social disparity dominated in the majority of main global economies throughout centuries. Even though the situation has changed nowadays, and these times have vanished, their impact still remains noticeable and is strong enough to influence such highly sensitive matters as corporate cultures.

IDV, has minimal value at 6 and maximal at 91. In this case mean and median values are equal, and the mode is as low as 20, which is almost a third lower than the median. This situation can also be explained economically, since strong individuals are often considered as threats by most employers – the workforce should feel themselves as part of the team/this makes them more controllable and more predictable.

After basic research we have calculated the total absolute values of variation between the criteria of analyzed country and compared them to each country that participated in the research. This allowed to identify the countries similar and polar to the research subject and make basic conclusions on the level of conflictness arising from straightforward discrepancy between the values of four Hofstede criteria for interacting countries.

Apart from the total variation value, we can use other indicators to investigate distinctions in corporate cultures of different countries. The value of cross-index is calculated as the difference between values of comparable criteria for both countries, divided by the difference between maximum and minimum for the same criteria. This index is used to perform pairwise comparison of

key cross-cultural factors and to identify their differentiation or conflict-compatibility.

Cross-index is calculated with the following formula:

$$CI = \frac{I_{base} - I_{comp}}{I_{max} - I_{min}}, \quad (1)$$

Where,  $I_{base}$  – index value for analyzed country;  $I_{comp}$  – index value for compared country;  $I_{max}$  – maximum index value;  $I_{min}$  – minimum index value.

Zero value of this criteria shows that the index has equal values in analyzed and compared countries. Negative value means that the index value in analyzed country is less than in the country, used for comparison. Opposite is true for values above zero.

Minimal value of the index is  $-1$ . It corresponds to the difference between maximal and minimal values of the criterion. Analyzed country has minimal value, compared country has maximal value.

Maximal value of the cross-index is 1. It also corresponds to the difference between maximal and minimal values. In this case the index for analyzed country has maximal value, for compared country – minimal value.

Apart from calculating the cross-index, it might also be useful to identify the influence margin that each index has on the total differentiation, thus identifying the most important indices. Doing so can help understand the priorities in developing the procedures intended to minimize cross-cultural differentiation.

In order to perform further analysis of corporate cultures' group differentiation, we calculated Gini coefficient and plotted Lorenz curve – these instruments allow to identify criterion with the highest level of differentiation.

Let's apply the above mentioned statistic research methods and analyze differentiation of Russia, compared to global corporate cultures.

The analysis of Russian position in global community, according to Hofstede criteria, allows to identify the degree to which our research subject is different from other countries. PDI index value for Russia is 93, with minimum at 11 and maximum at 104, inequality in terms of hierarchical power distribution can be stated as "high." IDV index reaches 39 points – this is median value. Maximum value for IDV index is 91, which means that Russian corporate culture tends to be more collectivist than individualist. MAS index – 36 – tends to be in the most frequent value group of the researched entity, and is three times less than maximal result for the index (110) – this indicates high acceptance of non-traditional labour distribution in the society. UAI value places Russia in the topmost group of countries, tending to avoid uncertainty (95 points, with maximum at 112 and modal value equaling 86).

Aggregate assessment of these criteria allows to identify groups of countries that are similar to Russia, as well as those that are

**Table 1: Cross-cultural differentiation**

Countries similar to Russia									
Total (four criteria)		PDI		IDV		MAS		UAI	
Country	Deviation	Country	Deviation	Country	Deviation	Country	Deviation	Country	Deviation
Surinam	20	Philippines	1	Jamaica	0	Guatemala	1	Belgium	1
Romania	23	Guatemala	2	Arab World	1	Surinam	1	Salvador	1
Guatemala	42	Panama	2	Brazil	1	Thailand	2	Malta	1
Uruguay	42	Romania	3	Iran	2	Uruguay	2	Poland	2
Bulgaria	46	Surinam	8	Turkey	2	S. Korea	3	Japan	3
Countries, polar to Russia									
Jamaica	162	<i>UK</i>	58	Denmark	35	Ireland	32	Malaysia	59
Austria	166	Finland	60	Italy	37	Mexico	33	<i>UK</i>	60
USA	180	Ireland	65	Hungary	41	Venezuela	37	Hong Kong	66
Ireland	188	N. Zealand	71	<i>Netherlands</i>	41	Austria	43	Sweden	66
Sweden	191	Denmark	75	<i>UK</i>	50	Hungary	52	Denmark	72
UK	198	Israel	80	Australia	51	Japan	59	Jamaica	82
Denmark	202	Austria	82	<i>USA</i>	52	Slovakia	74	Singapore	87

PDI: Power distance index, IDV: Individualism, MAS: Masculinity, UAI: Uncertainty avoidance index

polar by the sum of criterion values. The total absolute value of cross-cultural differentiation is displayed in Table 1. Countries, providing the majority of direct international investments in Russian economy are given in italic.

According to Table 1, such countries as Surinam, Romania, Guatemala, Uruguay and Bulgaria are the closest to Russia in terms of specific traits of corporate culture. Thus, we can assume that in case these countries try and establish international market bonds with Russia, diversity in corporate cultures would not play any important role, and managers could easily minimize or even neglect problems, caused by variety in management psychology. Denmark, Great Britain, Sweden, Ireland and USA are, contrary, polar to Russia in terms of all four Hofstede criteria. Consequently, there potentially is a high risk of problems in HR integration with businesses from these countries. We should also notice that the majority of countries that form the flow of direct investments in Russian economy are in polar position to Russia in the aspect of corporate culture.

Let's perform a deeper analysis and apply cross-index to differentiation criteria. Results are given in Table 2.

Table 2 shows that there are positive and negative variations of criterion values, comparing to Russia. Average value of 0.38 indicates that these variations are significant. PDI index has maximal variation and countries most polar to Russia are Germany, Switzerland and United Kingdom. It means that these countries have strict and centralized management system, comparing to more liberal Russian one. Basing on the values of cross-index, we can conclude that French managing system is the closest to Russian. Consequently, French companies coming to Russian market will have the least managerial problems in terms of human resource coordination. We have aggregated variation values to a separate table.

Data in Table 3 is used to calculate Gini coefficient and graph Lorenz curve. This information allows to perform further analysis of corporate cultures' differentiation and leads to a conclusion – all four criteria have a significant amount of differentiation, with IDV being the most differentiated. Most of the countries have

**Table 2: Cross-index values**

Countries	PDI	IDV	MAS	UAI
Russia	0	0	0	0
France	0.269	-0.376	-0.067	0.087
Germany	0.624	-0.329	-0.286	0.288
India	0.172	-0.106	-0.190	0.529
Netherlands	0.591	-0.482	0.210	0.404
Switzerland	0.634	-0.341	-0.324	0.356
United Kingdom	0.624	-0.588	-0.286	0.577
United States	0.570	-0.612	-0.248	0.471

PDI: Power distance index, IDV: Individualism, MAS: Masculinity, UAI: Uncertainty avoidance index

**Table 3: Criterion variations**

Countries	Factors			
	PDI	IDV	MAS	UAI
France	34.25	43.84	9.59	12.33
Germany	39.73	19.18	20.55	20.55
India	16.00	9.00	20.00	55.00
Netherlands	34.38	25.63	13.75	26.25
Switzerland	37.11	18.24	21.38	23.27
United Kingdom	29.29	25.25	15.15	30.30
United States	29.44	28.89	14.44	27.22

PDI: Power distance index, IDV: Individualism, MAS: Masculinity, UAI: Uncertainty avoidance index

less than average IDV value, which seems to be reasonable from the historical point of view – throughout history most of the countries at a certain stage were totalitarian, and the remains of that psychology can be visible up till now. Second most differentiated criterion is PDI, while UAI and MAS are less differentiated.

## 4. CONCLUSIONS

In the article we have made an effort to analyze the most important quantitative statistic indicators that allow to exactly identify the position of a corporate culture in the global system of cross-cultural interactions. Depending on the goal of the research, other indicators can be used as well. Practical value of the research - The analysis of cross-cultural characteristics, allows to create a general image of strong and weak sides of both global cross-cultural interaction, as well as local one involving two companies of



different countries, trying to build an effective international team. The above described method allows to analyze the efficiency of such interaction at different stages, both long-term and short-term, and to create an event plan, intended to optimize this interaction and minimize potential conflicts, offering general managerial recommendations. If we take into account main sources of foreign direct investments in Russian economy, it would be reasonable to use this model to have a deeper look on corporate cultures of France, United Kingdom, USA, Germany, India and Switzerland, in comparison to Russian one.

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# The Role of Economics of Leningrad in the Soviet National Industry during the Great Patriotic War

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## ABSTRACT

This article is based on archival documents and published sources describing the role of the economy in Leningrad during the Great Patriotic War. It is emphasized that even in the enemy siege the residents of Leningrad provided the front with everything necessary. There were data on losses of enterprises in Leningrad during the war, as well as information about damage to city utilities, transportation, and communications. The author paid attention to the study of the dynamics of evacuation equipment and specialists from Leningrad during 1941-1943 and the process of re-evacuation in 1944. Attention was paid to qualitative changes in the structure of the equipment associated with the selection of new production technologies. This article examined a wide range of economic issues, including the development of multiple industries as well as the activities of the health care system, public education and cultural institutions. Attention was drawn to the fact that all enterprises and institutions in Leningrad were a single state-owned facility. Special attention was paid to the activities of the banking system, its role in the maintenance of municipal enterprises, institutions and people of Leningrad.

**Keywords:** Great Patriotic War, Industry, Economy, Finance

**JEL Classifications:** D80, L60

## 1. INTRODUCTION

To date in the scientific literature a reasonable estimate of the contribution of the economy of Leningrad in the Soviet Victory in the Great Patriotic War was not given. Analysis of ways to strengthen the economy of the metropolis in terms of its isolation helps to identify effective ways of its development in the conditions of sanctions against the Russian Federation. In 1941-1945 Leningrad has gained an important experience not only in an increase in produced goods, but also the experience of strategic planning of development of all sectors of the economy aimed at strengthening the country's defense.

## 2. MATERIALS AND RESEARCH METHODS

In this article the author has introduced in scientific circulation a number of documents of the Central State Archive of St. Petersburg (the Central State Archive of St. Petersburg), allowing

in a new way to look at some aspects of economic development of Leningrad during the war, including during the siege. The analysis of historiography gave the opportunity to compare its data with archival documents, which enabled to improve the reliability of the study. The methodology of the research is based on a number of scientific methods: Methods of analysis, deduction, induction, generalization, synthesis and comparison. Among the historical methods were used historical-systemic, historical-typological, comparative-historical and retrospective methods, as well as a method of historical periodization. So, widely used historical-comparative method because it allows better to trace the dynamics of the production process, makes it possible to compare economic and other indicators in different time periods. The historical-comparative method allows us to determine the reliability of a historical source in terms of its comparison with other sources. It provides an opportunity to assess the historiography from the standpoint of the objective relationship of researcher to the interpretation of the used sources.

In addition, the method helps to identify factual inaccuracies in the documents, especially in memoirs and diaries. Historical-typological method allows successfully to explore the essential elements that characterize the economy of Leningrad at different stages of hostilities. This method let successfully to study the process of urban governance and urban economics. Historical-typological method helps to provide a more accurate assessment of the development of economic sectors, including the banking system, network, utilities, educational, scientific, cultural institutions, industrial and agricultural enterprises, transport, trade, construction, communications and other industries. Historical-systematic method allows to consider the economic activity of Leningrad simultaneously in two planes: As a holistic phenomenon and, at the same time, as a phenomenon with a complex structure and multiple connections. These connections, interacting, creates not always predictable palette of folding financial and economic relations in Leningrad in the war time. A method of historical periodization helps to streamline the historical data, while the retrospective method of the study allows to trace the main trends of financial and economic development of the city and the country as a whole during The Great Patriotic war.

### 3. DISCUSSIONS

The material losses of the USSR during The Great Patriotic war amounted to 41% of the losses of all countries involved in The World War II (WWII). The Wehrmacht and its allies fully or partially destroyed 1710 Soviet cities and towns, more than 70 thousand villages. In the course of the war were destroyed more than 6 million buildings, resulting in homes loss of 25 million people. The enemy destroyed about 32 thousand industrial enterprises, 98 thousand collective farms, 1876 state farms, 2890 machine and tractor stations. The Soviet people during the war, has lost about 30% of national wealth, which amounted to 192 billion rubles (Vasilenko, 2013). Among the destroyed Soviet cities, as it is known, one of the most affected became the city of Leningrad, the economy of which suffered enormous damage. According to S.P. Knyazev, who referred to data from the Central State Archive of historical-political documents of St. Petersburg, in Leningrad destroyed 90% of the industrial enterprises (Knyazev, 1965). Enemy artillery bombardment and bombing had destroyed 840 industrial buildings, 3 thousand were damaged. Significantly suffered such industrial giants as “Kirovsky Zavod” and “Electrosila,” “Russkij Dizel,” the factory “Svetlana,” Leningrad meat-packing factory named by S.M. Kirov, the city plant. Significantly were affected the transport, utilities, medical, educational and cultural institutions. According to the oldest historian of the siege of Leningrad N.D. Hudakova “were destroyed 388 km of tramways, 118 tram cars; damaged 980 tram cars and trolley buses 114,106 of 640 locomotives and cars, more than 285 miles of railroad tracks were destroyed and damaged” (Khudyakova, 2006). The Nazis completely destroyed in Leningrad 22 school buildings and 5 building institutions. 393 schools and 150 buildings of higher educational institutions, including the building of the Leningrad state University named by A. Zhdanov, the Academy of Arts, Mining Institute, 482,195 medical and children’s institutions were damaged. The total loss of Leningrad and suburbs amounted to 38 billion rubles (Khudyakova, 2006), i.e., 20% of all damage

(Vasilenko, 2013; Khudyakova, 2006) caused by the enemy of the Soviet Union during The Great Patriotic war.

According to the newspaper “Pravda” of 1943 December “Leningrad, despite its frontline position is one of the most important centers of manufacturing for the front arms and ammunition” (Frolov, 2011).

### 4. RESULTS

Due to the evacuation from Leningrad to other parts of the USSR of industrial enterprises, cultural, scientific and educational institutions in the Volga region, the Urals, Siberia and the far East, the Trans Caucasus and the Central Asian republics were laid the foundations for numerous new segments of the economy. In the subsequent war and postwar years they became the basis of rapid economic and cultural development of the regions of the Soviet Union.

As shown by archival researches, from Leningrad in 1941-1942 was evacuated to 80 thousand units of equipment accounted for 80% of the entire fleet of production equipment of the city (Central State Archive of St. Petersburg (Hereinafter – the Central State Archive of St. Petersburg). F. 4965. List 3. D. 82, p. 4).

As is known, the evacuation lasted till the end of autumn 1943. The best equipment of Leningrad was transferred to the unfolding enterprises in virtually all surround regions of the country. In the rear of the Soviet Union during the war there was not, perhaps, any large enterprise, which to some extent, was not provided with equipment transported from Leningrad factories. Thus, the Leningrad without exaggeration can be called the ancestor of hundreds of factories located in different regions of the Soviet Union. Actually, due to the equipment and personnel of the Leningrad enterprises was laid the infrastructure of the entire Soviet economy during The Great Patriotic war. Despite the fact that a significant part of machines and other vehicles since 1944, began to return to Leningrad, a lot of it remained in new locations. In addition, despite the return of equipment to Leningrad, the very fact of his stay for several years in other cities of the Soviet Union gave a powerful impetus to the development of local industry in the regions of the country.

Institutions of socio-cultural sphere of the economy also played a significant role in creating the largest intellectual, educational, medical and cultural centers in many regions of the USSR. Among the many examples was the example of the Leningrad State University named by A. Zhdanov, relocated during The Great Patriotic war in Saratov. Thanks to the creative cooperation of scientists of the Leningrad and Saratov, a city on the Volga has received a powerful impetus for the development of science and pedagogical activity. It is important to note that in this case, as in others, like it, was carried out an effective process of mutual enrichment of scientists and teachers of the two universities. In particular, the staff of LSU, returning to Leningrad, gained experience of the Saratov scientific school, which had a positive impact on the activities of the Leningrad state University (Avrus, 2009; 2011).

Throughout the period of The Great Patriotic war Leningrad, as the economic and financial center, was not considered by Soviet leadership as a region, that was not able, due to the conduct of hostilities, to participate in the formation of gross domestic product, aimed at the creation of the military potential of the country. It was, like other rear regions of the state, an active participant in the economic development of the state.

In July 1942 by decree of the Military Council of the Leningrad front about the measures ensuring the transformation of Leningrad in a military town, was approved the list of existing enterprises under Union-Republican jurisdiction in the amount of 170 units. All other enterprises were converted to conservation. In the named ruling of Military Council, it was said: "We need to restructure the work of the Leningrad industry, municipal services, and individual agencies in relation to problems of defense, leaving a minimum of operating companies, supplied with power, and reallocate labor between sectors of the economy." This minimum included companies that manufacture ammunition and weapons (Central State Archive of St. Petersburg [Hereinafter – the Central State Archive of St. Petersburg]. F. 4965. List 3. D. 82, p. 4).

In the first 6 months of the war, in conditions, when because of the mass evacuation of equipment and engineering and technical the personnel production capacity of "specialized defense industry of Leningrad fell by 48.7 per cent" (Central State Archive of St. Petersburg [CSA of ST. Petersburg] F. 4965. List. 3. D. 36, p. 5), the city continued to remain a major economic center, producing a wide range of military products. As noted by A. R. Dzeniskevich, "since the beginning of the war until the end of 1943 the Leningrad industry gave the front 836 1346 new and repaired tanks, 150 heavy marine guns, more than 4.5 thousand units of ground artillery of various calibers, over 12 of machine guns, more than 200 thousand machines, millions of artillery shells, the fuses of various types, a large number of radios, field telephones, different type of devices and apparatuses. Leningrad shipbuilders have built 407 and repaired of about 850 ships of different classes" (Dzeniskevich, 1998, p. 229-230).

From June 1941 until May 1945, Leningrad not only reduced, but also significantly increased its agricultural potential, being largely self-sufficient in agricultural products, which gave the opportunity to provide food not only for citizens, but also for soldiers of the Leningrad front and the Red Baltic Fleet. This, in particular, acknowledged the information contained in the report of the food Commission of the Military Council of the Leningrad front about the trade and public catering in Leningrad in the period from 22 June 1941 to 1 April 1943 (Zotova, 2013), as well as materials of the planning Commission of Executive Committee of the Leningrad city Council (CSA of St. Petersburg. F. 2076. List. 4. D. 94. L. 45, p. 45). During the war and siege directly in Leningrad there were more than 20 farms and more than 400 (and at the beginning of the siege more than 600) households. In Leningrad, according to official data, more than 225 thousand people were engaged in gardening. It all contributed to sowing about 12 thousand hectares of land in the city, achieving a harvest equal to almost 106 thousand tons of vegetables per year (CSA of St. Petersburg. F. 2076. List. 4. D. 94. L. 45, p. 45).

Fair should be considered the statement that in the midst of fighting, the people of Leningrad have created a number of economic projects aimed at the long term outlook (the project for agricultural development, educational projects, research projects, socio-cultural projects, etc.).

In October 1943, by the land Department of the Leningrad Executive Committee was developed a project for the development of agriculture of suburban area of Leningrad from 1944 to 1948. Its main idea was due to the city's economic potential to provide the citizens of Leningrad with high-quality agricultural products. The project was not implemented, but this did not speak about it being ineffective. Rather, it confirms the mismanagement of the leaders, who were not able in peace to carry out economically viable projects created in the difficult conditions of war and proven by practices of the siege.

During the Great Patriotic war and, in particular, during the siege on Leningrad enterprises were developed new technologies that allowed to produce products, which had not existed in the world. Evidence – release in Leningrad of the best medium tank of WWII – T-34 tank, radar stations, having no analogies in Germany, the UK and the US, production of equipment for naval and military aviation which tactical and technical characteristics significantly ahead their foreign counterparts and represented military equipment of tomorrow.

Life made Leningrad scientists to use their intelligence to develop all sorts of substitutes, which allowed the citizens to some extent adapt to the conditions of the blockade of famine (Zotova, 2013). Among these substitutes were food equivalents of food products, medical preparations, vitamins, as well as consumer goods – perfume, lipstick, tooth powder, creams, etc.

Experience in the development of new economic technologies in extreme conditions – in the conditions of deconversion and the conversion of company - invaluable now, when there has been a trend towards the revival of the domestic military-industrial complex.

The exclusion of economic and financial potential of Leningrad from total economic and financial system of the USSR in the case of the surrender of the town the enemy would significantly impede the common victory of the Soviet people in The Great Patriotic war. This is confirmed by the economic and financial contribution of Leningrad in the overall defensive capability of the Soviet Union.

In most cases throughout the war the Leningrad economy has completely coped with the implementation of planned activities. Every quarterly or annual development plan of economy and finance of the city was done. Nearly all of the plans were surpassed. A number of indicators had exceeded one and a half to two times or more. This shows the dedication of Leningrad, about the high professionalism of managers at all levels, as well as about the precise actions of the Central office. We should agree with opinion of N. Lomagin, who claimed that "the party organization played an important role in the life of Leningrad: Set the fair rationing of food; organized on a large scale civil defense; the population



was mobilized for harvesting and extraction of peat; organized a variety of ‘roads of life’” (Lomagin, 2000, p. 28).

A. Dzeniskevich rightly claimed that from Leningrad to “the mainland” were taken out the best, most modern equipment, and in the town remained mostly old equipment, much of which could not be used for production. The motives of this evacuation strategy is obvious. On the one hand, the government was interested in the speedy and effective launch of new facilities in the rear areas of the country, on the another – the organizers of the evacuation were not certain that Leningrad will be defended.

After a relative stabilization of the situation, when the city though was in the ring of enemy siege, but managed to have effective economy in wartime, evacuation of equipment continued to be provided, since the Leningrad by Central Government until the autumn of 1943 was seen as a productive donor. But this fact did not reduce the high demands made by the state to the sieged city. It did not only survive itself and provide itself, not only was satisfied with modest external support, mainly carried out on Lake Ladoga, but also solved numerous economic and financial challenges aimed at ensuring the Leningrad and Volkhov fronts, and the Soviet Armed Forces in with everything necessary. It was a continuous supply to the front of military equipment, weapons, ammunition, military-engineering equipment, uniforms and food, with which the city provided military units.

The role and financial contribution of Leningrad in the common cause of defeating the enemy is great. Because of the collection of money to the defense Fund, subscription for state military loans, the participation of Leningrad in monetary-ware lotteries, as well as the voluntary contributions of citizens for the war, Leningrad became one of the largest financial segments, which ensured the fighting ability of the Red army and Navy.

## 5. CONCLUSIONS

Assessing the contribution of Leningrad in the economic support of victory of the Soviet people in The Great Patriotic war, important is not only assessment of concrete indicators, but also the stability with which the urban economy aimed throughout the war to the front their products. In addition, after the breakthrough of the siege, many highly qualified specialists of the Leningrad enterprises were aimed to the factories of the country, where they shared their production experience to young workers and specialists, thereby forming a highly professional manufacturing school.

During the war the Leningrad economy has shown vitality and ability to grow in extreme conditions. It has developed new

approaches to the realization of its economic activities, re-interpreted and put into practice the ideas of high value-added industry.

Economics and finance of Leningrad in 1941-1945 became a worthy page of the struggle of the Soviet people with the enemy for the sake of Victory in The Great Patriotic war.

## 6. ACKNOWLEDGMENT

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## Innovation, Economic Growth and Inequality

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### ABSTRACT

This article discusses the different types of growth (endogenous and exogenous; Schumpeterian and Smitiansky); analyzed their relationship with innovation and the territorial distribution of institutions of higher education (for example, the UK, USA and Ghana). Attempt rapprochement Schumpeterian and institutional approach to understanding the nature and economic growth. It emphasizes the influence of innovation activity on the basis of the ideas of Schumpeter of "creative destruction" on economic growth; held idea that the ability to build and practical use of innovations, due to the level of scientific and technological progress in some countries, it is essential to ensure quality of economic growth. It argues that cross-country differences in economic growth, level of education and innovation activities are also responsible for increased inequality in the distribution of income/wealth between countries and within countries, and one of the negative trends becomes decrease in the share of the middle class in developed and in developing countries.

**Keywords:** Economic Growth, Innovation, Inequality

**JEL Classifications:** O31, O40, F43

### 1. INTRODUCTION

For three decades, from the mid-1950s until the mid-1980s in the western economics is almost completely dominated by developed within the neoclassical theory of the concept of exogenous, i.e., brought into the economic system from the outside technological progress. It was proposed and substantiated in the works of Tinbergen, Solow, Harrod and several other well-known economists. Tinbergen, for example, believed that the slow increase in the impact of resources as a result of technological progress can be reflected by the inclusion of a neutral factor in the exponential technological progress multiplicative production function. The idea of a neutral technological progress (that at which it does not change the ratio of the values of certain parameters) was later developed by Hicks, Harrod and Solow (Kolemaev, 2005). However, Nelson and Winter, not without malice notice that the theory of Solow (innovation=shifts production function,

previously wrote about it, and Schumpeter) "does not explain literally nothing from the observed productivity growth" (Nelson and Winter, 2002). However, despite this, as well as the fact that in the opinion of many economists theory Solow cannot explain the difference in the richness of the different countries of the world (which is especially important for the purposes of this article), but this "failure" has stimulated the further development of the theory of endogenous growth (Mankiw et al., 1992).

Various studies carried out in the framework of the three-factor neoclassical growth model with a production function on an array of statistical indicators of the dynamics of the US economy, in different periods gave divergent, but always quite high estimates of the contribution of science and technology in economic growth.

In these studies, we are faced with the fact that technological progress has given the outside (exogenous) and is autonomous

in relation to the other two alternating three-factor neoclassical growth model-labor and capital. However, in most cases, technological innovation, “dissolved” in the factors of production (i.e., the set of endogenously). Then there is a situation in which capital and labor can, under certain technology becomes infinitely interchangeable (Kovalev, 1999).

From the neoclassical models implied that all countries have equal access to modern technologies, should be in the limit when entering the path of equilibrium growth, converging between a rate of change in labor productivity (of course, adjusted for differences in starting conditions, the rate of population growth, The savings rate of capital and factors beyond the simulated process). But, as Robert Solow admits talking about something similar to a convergence in the real economy can only be for the most industrialized countries and inappropriate when compared with the countries of Latin America, Africa and most of Asia.

An important theoretical breakthrough came in the mid-1980s. When Romer, Lucas, Aghion and Howitt, as well as several other researchers used a new approach to the construction of models of economic growth, providing the possibility of generating in the study of macroeconomic system inherent internal (endogenous) technological changes. As a result, the simulated system receives additional impetus to growth at the same ratio of the cost of traditional factors of production - Labor and capital. In the most general form, this is due to the accumulation of human capital, induces an increase in the effect of scale.

Of all the models we have mentioned the most useful for the purposes of our study has a model of Aghion and Howitt, because it is based on the ideas of Schumpeter on the role of creative destruction (partial bibliography of these researchers is given us in the list of references. See, for example, (Angus, 2010; Angus, 2013; Angus, <https://www.press.princeton.edu/chapters/i10054.pdf>; Richard et al., 2015; Elliott, <http://www.theguardian.com/business/2015/jan/19/global-wealth-oxfam-inequality-davos-economic-summit-switzerland>; Schumpeter et al.). In accordance with this model of economic growth driven by technological progress, which, in turn, is ensured by competition between firms, generating and implementing long-term product and technological innovation. Every innovation brings to market a new intermediate goods (product, technology), which can be used more effectively than ever before, the production of the final product.

## 2. LITERATURE REVIEW

The problem causes and sources of economic growth is one of the main areas of economics for decades; of the sources used is provided in the bibliography appended to this article.

### 2.1. Model of Aghion and Hewitt

On the relationship between education, science, innovation activity and economic growth, there is an extensive and ever-growing literature repeat that we are not - In the end, much of the innovation is created in universities and/or their affiliated organizations. We note only the following: In our view, the territorial distributions of scientific and educational institutions also have a significant impact

on innovation and economic growth. For example, in the UK and the US to meet college or university in the countryside - are not uncommon. However, in developing countries the situation is different; there are universities - Almost exclusively urban phenomenon. For example, Kwame Nkrumah University of Science and Technology, one of the leading technological universities in West Africa, located in Kumasi, the second largest city of Ghana; in rural areas do not find anything similar (Richard et al., 2015; Kindle location 408). Example Ghana we still need, when we turn to the analysis of inequality in the distribution of income/wealth.

The main motivation for innovative companies is the prospect of monopoly rents in the case of the successful patenting innovations. Due to this rent covers costs associated with the development and implementation of innovations. However, the monopoly is automatically lost when the next innovation, which leads to the obsolescence of existing intermediate goods before him. The patent remains valid all the time to come, but its use is economically less profitable. The period between two consecutive successful innovations is a random variable due to the stochastic nature of the innovation process. The theory of endogenous growth based on innovation, argues that the way to increase the rate of economic growth is not the preservation of much of the production and transfer of the company's focus on research and development (R and D).

Model Aghion - Houita exploring the balance between three types available on the market include labor, final consumption goods and intermediate goods, which are necessary for the production of final consumption goods. For all markets except the market of intermediate goods, characterized by perfect competition.

In this regard, it must be remembered that different countries have very different access to scientific and technical progress and, more broadly, to innovate. However, as proof Acemoglu and Zilibotti even if all countries have equal access and so on, in which case there would be a difference in performance, which, in turn, would determine the difference in growth rates and the distribution of income (Daron, and Fabrizio, 2001).

As part of the analyzed model assumes that there are three categories of labor: Unskilled labor M, which can only be used for the production of final consumption goods; skilled labor force N, which can be used in the process of R and D and the production of intermediate goods; experts R, are engaged only in R and D.

Of final consumption goods are produced using intermediate goods constantly updated and fixed resources unskilled M. The corresponding production function is of the form:

$$y = AF(x) (F' > 0, F'' < 0), \quad (1)$$

Where:

$y$  - The volume of production of final consumption

$x$  - The number of used intermediate products (technology)

$A$  - Parameter characterizing the performance of intermediate goods.

Production of intermediate goods requires skilled labor costs. Appropriate human resources are allocated between the intermediate sector and the R and D. The total resources of skilled labor in the simulated system is to  $N$ .

The production process of the intermediate sector is linear:

$$x = L \tag{2}$$

Where  $L$  - The outflow of skilled labor used in the intermediate sector.

The flow of innovations is randomly generated in the sector of R and D. The intensity of the flow of events is subject to a Poisson distribution, and is for any moment of the expression:

$$x = \lambda \varphi(n, R) \tag{3}$$

Where:

$n$  - Characterizes the part of skilled labor, which is occupied by R and D

$\lambda$  - Constant parameter

$\varphi$  - Concave production function for all  $n$ .

The values of  $\lambda$  and  $\varphi$  are determined by the peculiarities of the functioning of the R and D sector, including concentrated in this sector resource. It is assumed that all numerical values and rates between two adjacent events (appearance innovation) remain constant. Lags associated with the diffusion of new technologies available.

In the intermediate sector has always made the latest intermediate goods. The use of new intermediate goods leads to an increase in productivity parameter  $A$  in the sector of final products in time  $\gamma$  ( $\gamma > 1$ ):

$$A = A_0 \gamma^t \tag{4}$$

Where:

$A_0$  - A value corresponding to the initial instant

$t$  - In this case the sequence number innovations.

### 2.2. The Formalization of the Theory of Joseph Schumpeter of “Creative Destruction”

As part of the Schumpeterian theory (its genesis and further development was seen earlier [Dmitriev, 2011]) innovations create improved versions of older products, and aggregate output is played through a constant stream of intermediate products in accordance with the following formula:

$$Y = L^{1-\alpha} \int_0^1 A(i)^{1-\alpha} x(i)^\alpha di \tag{5}$$

Where  $L$  - total labor costs,  $x(i)$  - the amount of intermediate input  $i$ ,  $A$  - parameter characterizing the performance of intermediate goods available for use.

Subsequently sector monopolized and held therein intermediates constant limit value.

Innovations in sector  $i$  consist of new versions whose grocery parameters  $A(i)$  higher than previous versions due to the fixed factor  $\gamma > 1$ . Assume that the probability of innovation in the sector  $i$  is increased for a short time interval  $dt$ , which is equal to  $\mu * dt$ . Then the growth parameters  $A(i)$  will be:

$$\frac{dA(i)}{A(i)} * \frac{1}{dt} = \begin{cases} (y-1) * \frac{1}{dt} & \text{with probability } \mu * dt \\ 0 & \text{with probability } 1 - \mu * dt \end{cases}$$

Accordingly, the expected growth in  $A(i)$  is given by:

$$E(g) = \mu(\gamma - 1) \tag{6}$$

The probability  $\mu$  innovation in any sector is proportional to the flow of the performance adjusted for the cost of R and D:

$$\mu = \lambda R / A \tag{7}$$

Where  $R$  - The final amount of R and D costs.

Thus, the theory of endogenous growth based on innovation, argues that the way to increase the rate of economic growth is not the preservation of much of the production and transfer of the company’s focus on R and D (Peter, 2008).

### 2.3. The Use of “Cannibalization” Method in Innovation Management

Model Aghion - Howitt carries the idea of creative destruction Schumpeter: Every innovation is aimed at obtaining monopoly rents, but it also eliminates the monopoly rents previous innovations. The phenomenon of the supply of goods and services that compete with the previously manufactured by the same company line of products called cannibalization. When companies refuse to cannibalize their own products, they are under the influence of false representations, believing that if they did not withdraw into the market a new product, then that no one else will do. Therefore, they believe that prices will remain stable, and their incomes are protected. The Company will continue to adhere to this statement, referring to the strength of the performance of its share of the market and the high level of losses that consumers will suffer if they switch to the production of competitive goods.

Error that actually appear competitors; Moreover, the size of the market share it had previously appeared in the company actually is minimal, as the new product, if it is a worthy rival of the former, by definition, it has significant advantages. Customers can switch to the consumption of a new product, regardless of the future will soon change in prices. Consumer behavior of different groups of customers described us in the first section of this paper.

Thus, the refusal of cannibalization leading to a loss of market share and deterioration of economic indicators (Foster and Kaplan, 2005).



In more detail the use of “cannibalization” in innovation management discussed earlier in the relevant article (Dmitriev, 2013).

Value innovation is determined by the time of his life, which, in turn, depends on the number of specialists working in R and D sector following the implementation of innovations.

Every moment of time within the system being modeled society accepts only solution - How to allocate fixed resources of skilled labor between R and D and production.

Considering the conditions of stationary equilibrium of the system described, we, in the end, the expressions:

$$y_t = AtF(N-n^*), \tag{8}$$

$$AGP = \lambda\varphi(n^*)\ln y, \tag{9}$$

$$VGR = \lambda\varphi(n^*)(\ln y)^2, \tag{10}$$

Where:

*AGR* - The average rate of economic growth

*VGR* -The dispersion of the average growth rate

*n\** - The share of skilled labor associated with the production of intermediate goods.

Increasing the intensity of the flow of innovation, the scale of the impact of innovation on the economy and the share of skilled labor associated with the production of intermediate goods (ie the human capital in the field of R and D), leads to the equilibrium path to the increase in the average growth rate of the economy. However, the increase in interest rates has the opposite effect (Innovation Management: Concepts, multilevel strategies and mechanisms for innovative development, 2007). Financial aspects of the growth model based on the idea of creative destruction in detail in the article Morales (Morales, <http://www.digital.csic.es/bitstream/10261/1911/1/48701.pdf>).

### 2.4. Interrelation of Schumpeterian and Smitiansky Growth

Close enough to the position Howitt about Schumpeter model of endogenous growth is the point of view of Acemoglu. The difference is that Acemoglu emphasizes the role of international trade (Daron and Robinson, 2010), bringing together, thereby Schumpeterian and Smitiansky growth. (Read more about Schumpeterian, Smitiansky and other types of growth (Mokyr, 2014). Interestingly, Mokyr argues that business profits provided such innovations as railroads, “is a clear link between Schumpeterian and Smitiansky growth” (Mokyr, 2014), whereas Deaton writes that the construction of railways can reduce poverty, but they appear to be one of those “mechanisms that work in one context and do not work in another”(Angus, 2010).

### 2.5. Inequality of Income/Wealth as a Consequence of the Difference in the Rate of Economic Growth and Innovation Activity

The increase in revenue secured rates of economic growth are distributed very unevenly. As the results of the work carried out

by researchers from the National Bureau of Economic Research inequalities in the distribution of wealth in the US is close to its record level over the last 30 years, the share of household income, related to the 0.1% of the most affluent population, increased from 7 to 22%. (Emmanuel and Gabriel, <http://www.nber.org/papers/w20625>), almost reaching the figures recorded before World War I (Figure 1).

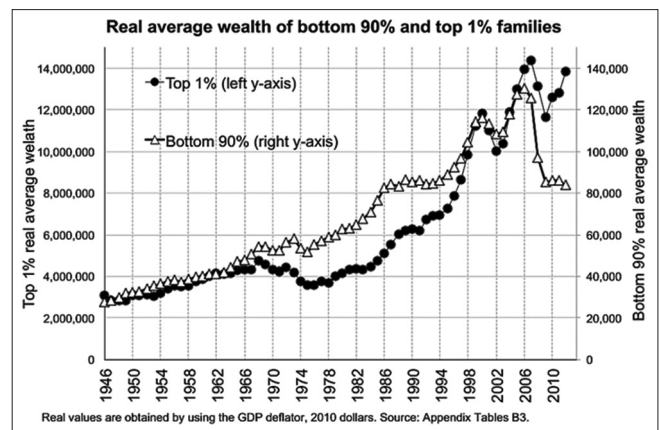
In turn, the income share of the poorest 90% of households has steadily declined as a result of the influence of a combination of rising debts, depreciation due to the global crisis of their financial assets, as well as low growth of real wages. The average level of income referred to 90% in 2012 was \$80,000 - the same as in 1986, while the average income level of 1% of the wealthiest households from 1980 to 2012 increased more than 3 times (Monaghan, <http://www.theguardian.com/business/2014/nov/13/us-wealth-inequality-top-01-worth-as-much-as-the-bottom-90>).

This inequality is not unique to the United States, but also to other countries within the G20. For example, in Australia in 1980, the share of the richest 1% of households accounted for 4.8% of national income, while in 2010 this share was more than 9%; during the period when Australia chaired the “Big Twenty” (from 2013 to 2014.), the combined wealth of the G20 countries increased by 17 trillion dollars. USA; at the same time, the share of the richest 1% of households had 6.2 trillion dollars. USA, i.e., 36% of total growth (Monaghan, <http://www.theguardian.com/business/2014/nov/13/us-wealth-inequality-top-01-worth-as-much-as-the-bottom-90>).

At last year’s Economic Forum in Davos, researchers from Oxfam International presented the report, which shows that the 85 wealthiest people on the planet have the same wealth as the 50% (i.e., 3.5 billion people) of the poorest; the comparison becomes even more impressive when you consider that in 2010 the number of the most wealthy people have the same wealth amounted to 388 people.

Scientists from Oxfam International concluded that the current trend will lead to the fact that by 2016 the richest 1% of households

**Figure 1:** The average values of 90% of the wealth of the poorest (right vertical axis) and 1% of the wealthiest households (left vertical axis)



will own more than 50% of global wealth (Elliott, <http://www.theguardian.com/business/2015/jan/19/global-wealth-oxfam-inequality-davos-economic-summit-switzerland>).

Figure 2 is a so-called “pyramid distribution of global wealth,” according to a study compiled by Oxfam International:

With these resources, the richest part of the population has an enormous capacity to maintain the current status quo, using his success to change the “rules of the game” in their favor, for example, by using a tool such as lobbying. According to the Nobel laureate in economics in 2015 Angus Deaton, this is not the success that I should be proud of (Deaton, 2013). Deaton, incidentally, notes the paradox inherent inequality “inequality is often a consequence of progress. Can not all rich in the same time. In turn, the inequality can affect the progress” (Angus, <https://press.princeton.edu/chapters/i10054.pdf>). Here it is appropriate to recall the English proverb “necessity is the mother of invention” (“Necessity is the mother of invention”).

In addition, negative symptoms are slow growth of incomes of the middle class, which hinders the growth of consumer demand, etc. This is evidenced by the data obtained by experts from Credit Suisse Research Institute (Elliott, <http://www.theguardian.com/business/2015/jan/19/global-wealth-oxfam-inequality-davos-economic-summit-switzerland>).

The above-mentioned tendency to property stratification inherent not only to developed countries. The proof of our thesis is an example of African countries (excluding South Africa). On the one hand, the skyscrapers of Accra, capital of Ghana, show a fairly high level of development of the construction industry and its financial center can be found throughout American businessmen, students over a cup of coffee stock quotes. (Urbanization and the above-noted concentration of educational institutions in the large cities of Africa, may serve as a confirmation of the thought of Marx that the bourgeoisie “... has created enormous cities, has greatly increased the urban population as compared with the rural, and has thus rescued a considerable part of the population from the idiocy of rural life” (Marx and Engels, 1955)). On the other hand, according to The Pew Research Centre, only 6% of Africans can be attributed to the middle

class (in Africa are people who earn from \$10 to \$20 a day, while 74% of the population lives only 74 cents per day), and it very small number is growing rapidly. Research conducted by the consulting company EIU Canback (partner of the influential British magazine “The Economist”), recorded only a slight increase in what are called “middle class” in the period from 2004 through 2014: From 4.4% to 6.2%; growth of the “upper middle class” (from \$20 to \$50 per day) in the same period was only 0.9% (from 1.4 to 2.3%).

Particularly noteworthy is the fact that the growth of the middle class, which is hardly spectacular, occurred against the background of annual economic growth of 5%, almost twice as fast as population growth (Few and far between, <http://www.economist.com/news/middle-east-and-africa/21676774-africans-are-mainly-rich-or-poor-not-middle-class-should-worry?frsc=dg%7Cd>).

### 3. DISCUSSION OF THE RESEARCH OUTCOMES

The reasons for these disparities are a low “initial conditions” of African States (there is no “free lunch” for which it is impossible to doubt), but, more importantly, revenue growth due to data growth is distributed very unevenly. And this inequality in recent years only increased. Confirmation of this hypothesis is the fact that the company Shoprite Holdings, the largest South African retailer, has opened in Nigeria 600 - 800 stores, closed most of them - now the number is only 12 - and with Cadbury and Coca-Cola shut down its plants in Kenya (Few and far between, <http://www.economist.com/news/middle-east-and-africa/21676774-africans-are-mainly-rich-or-poor-not-middle-class-should-worry?frsc=dg%7Cd>).

In turn, this inequality can be explained by the “vicious circle of political and economic institutions”, as do Daron and Robinson (2010).

### 4. CONCLUSION

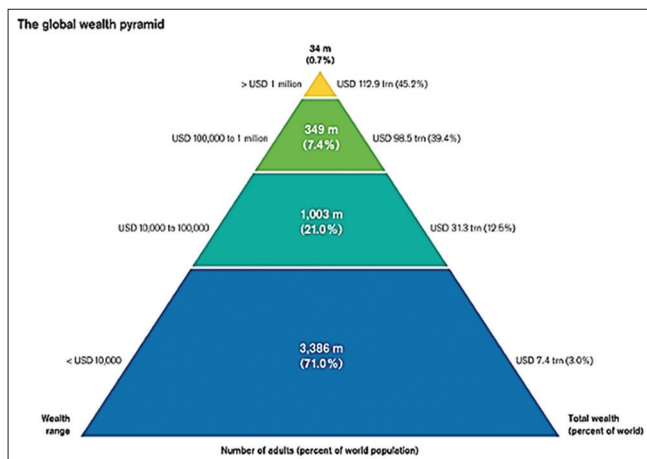
Against this backdrop, the concern of Pope Francis and IMF head Christine Lagarde aggravation property stratification, as well as the success of the book by Thomas Piketty “Capital in the XXI century” look quite reasonable, and fear Schumpeter, capitalism as “the civilization of inequality,” “fast disappearing” (Schumpeter et al.) fairly realistic (to mention in this article about inequality, we have deliberately tried to avoid references to the book of Piketty, which became a bestseller economic past two years trying to preserve the independence of his own thought, formed, if not before the original “Capital in the Twenty-First Century”, then at least before the publication of his Russian translation).

Strange as it may sound, but the innovation and strong economic growth did not reduce inequality in the growth of national income in different countries, on the other hand, this inequality is increasing.

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**Figure 2:** Pyramid of the distribution of global wealth



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## **Development of a Methodology of the Product Line Matrix Formation of the Enterprise Fabricating Clothes**

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### **ABSTRACT**

The paper has considered the questions connected with formation of the rational range of the enterprises for production of clothes. It has also analysed the factors influencing the range formation subject to the principles of the rational wardrobe design (a capsular approach and a colour type of a man's appearance). The paper has developed the algorithm of the range formation of the enterprises fabricating clothes in a mass-market segment on the basis of a brand standard subject to the principle of rational wardrobe. It has created the mathematical model of a rational a product line matrix of the sewing enterprise in a mass-market segment.

**Keywords:** Product Line Policy, Product Line Matrix, Rational Wardrobe, Capsular Approach

**JEL Classifications:** L53, L67, M11

### **1. INTRODUCTION**

Any modern enterprise aims to maximize its profit most often reaching it by the increasing volume of sales and minimizing the cost price. And if the prime cost reduction has its limits, than volumes of the realization are limited only to the existing resources of a company and market capacity of consumption.

In this regard the majority of the companies daily face a problem of the search of customers having recourse to the search of new markets with the use of various tools: Advertising, price competition, etc. The use of already known tools will not give a desirable result if they do not become an integral component of a certain strategy. This paper considers a product line policy of the enterprise of small and medium business on production of clothes. For the policy realization the research of the development process of a rational product line matrix is topical.

Technological processes transformation in production of products of the light industry has affected all segments of the industry and had the essential impact on the formation of consumer preferences.

The task of producers and sellers of clothes at this stage consists in the development of common integrated algorithms of the organization and realization of a product line matrix at the heart of which the principle of the rational system is underlain. In particular, the use by a consumer of the principle of rationality at the creation of his own clothes, and the reconsideration of a place and role of each element of clothes both when determining an individual capsule and in "person is clothes" system in general, where there are new forms of the rational interaction, are of great interest. On the other hand, the small and medium-sized enterprises fabricating clothes, which range is chaotically formed, are actively developing under the influence of random factors, and, often, have no common m algorithm of the formation of a range.

Despite considerable researches devoted to a problem of the formation of a range now there is no common methodological approach. Methodical tools of the formation of a range of the enterprises of the sewing industry, which, on one hand, would be economic for the industrial enterprises and, on the other hand, would satisfy consumers' preferences, are insufficiently developed.



The existence of a formulated problem has caused the relevance of scientific researches directed on the improvement of the formation process of a rational commodity range of the enterprises fabricating clothes.

## 2. RESEARCH METHODOLOGY

The paper has used a system analysis which allowed considering structural and elementary connections in the integrated interaction a producer - a seller - a consumer at the stage of predesign researches of new models of clothes from positions of the relevance and competitiveness. The data obtained on the basis of the application of methods of group questioning and an expert assessment have allocated additional factors of the influence on the definition of the structure of a range, namely, the need for the specification of consumer groups on a color type of appearance. Also the method of the typization and the structurally functional method are used.

## 3. LITERATURE REVIEW

Halyavina, 2012; Abalikhina, 2004; Aboyudu, 2009; Nemkov, 2003 and Kotsur, 2009 have made a considerable contribution to the research of approaches to “a product line policy of the enterprise” conception. The works of these authors have considered a problem of the formation of a rational range of the industrial enterprises.

Popova and Balakireva, 2010; Chuvakova, 2012; Sysoev and Buzukova, 2012 works have considered methodological approaches to the formation of a product line matrix.

Zueva, 2000; Kharkova, 2007; Sirotna, 1999; Koblyakova, 1995 and Klochko, 2012 works have described approaches to the purposeful formation of a range of products of the light industry.

## 4. RESEARCH

A product line policy of the enterprise fabricating clothes at the present stage has to consider the factors connected with specific features of a consumer. Appearance of a person defines dimensional characteristics of clothes, a form (silhouette) and color appearance. Features of the identity of a consumer are shown in his lifestyle and connected with him style preferences in clothes, a choice of these or those composite and product line decisions. The practice of the formation of clothes of a modern person is connected with a tendency to the rational capsular wardrobe creation. Such approach allows in the course of the design of an industrial collection, on one hand, to consider features of production, and on the other hand, to create prerequisites for real customization.

Thus, a problem of the formation of a product line policy is closely connected with a problem of the study of the enterprise target audience. An analysis of the target audience gives a chance to define the basic data for the formation of a product line matrix of the enterprise.

A product line matrix is a document, which is a tabular form, in which according to the hierarchical principle (from a category to a unit of a commodity stock account) a company range is reflected and there is the information with certain characteristics of a range during a concrete period of time (Popova and Balakireva, 2010).

The present research has offered to consider the following major factors when forming a rational product line matrix of the enterprises fabricating clothes:

- A consumer’s lifestyle, a degree of his addiction to fashion;
- The segmentation of consumers on style figurative groups to style preferences;
- A degree of satisfaction with the individual wardrobe in a consumer group;
- The capsular structure of the client wardrobe and, as a result, the capsule essence of a product line of the enterprise and its continuity in relation to the previous collections;
- The existence in the wardrobe of a consumer of universal products which are coherent between the main capsules;
- A color type of a person’s appearance as one of the criteria of the definition of a collection number coloristic palette of the enterprise product line matrix.

Such approach demands the existence of stable communicative relations between a consumer and a producer. A lifestyle and a consumer’s individualization are the elements of an individual image and form consumer preferences in a concrete target group. In turn, the segmentation of target groups from positions of socio-economic factors which influence a choice and decision-making on purchase by a consumer, allows connecting the audience’s choice to a certain price segment. From this point of view it is expedient to consider preferences of the target audience through a prism of the known brands - standards.

As a result of the research conducted by the authors it is possible to point out the main stages of the formation of a product line matrix of the enterprise:

1. An analysis of analogs (brands-standards):
  - The definition of the target audience.
  - The formation of check-sheets (№ 1 - selection criteria of a suitable analog, № 2 - criteria of an analysis of a collection of a brand - standard).
  - Standard brand choice.
  - The testing/research/analysis of a collection of a brand - standard on commodity groups.
2. An analysis of commodity groups on the basis of the results over the last seasons and the enterprise work on trend watching.
3. The definition of a percentage ratio of commodity categories:
  - The definition of a percentage ratio of commodity categories depending on the results of sales over the last season.
  - The definition of a percentage ratio of commodity categories depending on a color type of consumers’ appearance.
  - A comparison of the available data with data of a brand-standard.
4. The formation of a product line matrix.

An analysis of characteristics of a brand-standard corresponds to an analysis stage of analogs in general practice of the design and allows minimizing costs of the enterprise of small and medium business of market researches. An analysis of the sources has showed that at a choice of a brand-standard it is possible to refer to the main criteria of an assessment: Price segment; consumer's satisfaction/dissatisfaction; loyalty to a brand; the perceived quality; leadership/popularity; the perceived value; the memorable attributes; associations with the organization; awareness on a brand; representation of a brand in the distributive network.

At the same time it is important for enterprise to consider the results of its own work over the last seasons in which features of its target audience are reflected and which allow to plan, for example, the replenishment of a consumer's wardrobe subject to prophetic/commodity categories acquired by him from the last collections.

Each commodity category has its silhouette decisions. An analysis of silhouette decisions helps to trace the actual trends of fashion and to define the strategy of the enterprise in solutions of a model range.

In the offered approach the accounting of a factor "a color type of a consumer's appearance" is new to the formation of a product line matrix in comparison with the existing approaches. The earlier obtained data testify that, for example, in Primorsky Krai of the Russian Federation 54% of all products of an industrial collection have to be designed for a "summer" color type, 28% - for "a winter" color type, 13% - for "a spring" color type, and 5% for "a autumn" color type (Shkuropatskaya, 2014).

It should be noted that the received results are actual for a certain target audience during a concrete period of time for territories of the concrete geographical region.

At the final stage the enterprise independently solves what data to use. However, anyway the carried-out work increases reliability of made decisions.

On the basis of the above stated facts the distribution of percentage ratios between commodity categories concerning all collection number of the enterprise presented in a season is possible. In turn, the introduction of coefficients defining a dominating color type of person's appearance and the leading silhouette solutions of a brand-standard allows to receive a product line matrix defining the quantitative indices commodity categories, silhouette decisions and a coloristic decision of a range of the enterprise over the actual period.

From the mathematical point of view, the considered set of characteristics is defined by variables (a commodity group and silhouette decisions), and a group of constant values (a color type of person's appearance) which can be presented in the form of 4 matrixes:

A constant matrix Y (constant values, the length is constant). A matrix is a vector "color type," consisting of 4 elements: Winter, summer, autumn, spring. For Russia a value of elements of a

matrix are constant and do not depend on a collection. The values of elements are expressed in percentage.

A matrix of the variable length X (values change, length changes). A matrix is a vector "silhouette" of the variable length. The length of a vector depends on a commodity group, and the values of elements depend on a collection. The values of elements are expressed in percentage.

A matrix of the constant length W (the values change, the length does not change). A matrix is a vector "commodity group" of the constant length. A vector consists of 8 elements: Blouses, trousers and jeans, outerwear, dresses, sweaters and cardigans, t-shirts and tops, shorts and bridges, skirts which values depend on a collection. The values of elements are expressed in percentage.

A matrix of the variable length Z (the values change, the length changes). The quantity of elements of a matrix depends on a commodity group and is a product of elements' quantity of matrixes X, Y, W. The values of elements of a matrix reflect the quantity of products of a certain color type and a certain silhouette in a commodity group concerning the total number of products of this commodity group in a collection expressed in percentage.

A value of a matrix element Z is calculated by the formula:

$$Z_{ij} = \frac{XiY_jW_k}{100\% \cdot 100\%}, \quad (1)$$

where:

$$j \in [1; 4] k \in [1; 8] i \in [1; n] i.$$

A  $k$  value depends on a commodity group and is appointed by an expert-estimator. In our research we will accept the following  $k$  values:

$$\left\{ \begin{array}{l} k = 1 - \text{blouses;} \\ k = 2 - \text{trousers and jeans;} \\ k = 3 - \text{outerwear;} \\ k = 4 - \text{dresses;} \\ k = 5 - \text{sweaters and cardigans;} \\ k = 6 - \text{t-shirts and tops;} \\ k = 7 - \text{shorts and bridges;} \\ k = 8 - \text{skirts.} \end{array} \right.$$

A choice of  $k$  value at the calculation of an element of a matrix Z is conducted by an expert, depending on what goods are now calculated.

$n$  - a number of possible silhouettes for this commodity group.

$$\left\{ \begin{array}{l} n = 4, \text{ if } k = 1, k = 3, k = 5; \\ n = 3, \text{ if } k = 2, k = 7, k = 8; \\ n = 2, \text{ if } k = 6. \end{array} \right.$$

Let's conduct the calculations for a commodity group "blouses" for an autumn-winter collection.

$$Y = \begin{pmatrix} y_1 \\ y_2 \\ y_3 \\ y_4 \end{pmatrix}, \tag{2}$$

where  $y_1 = 28\%$ ,  $y_2 = 54\%$ ,  $y_3 = 5\%$ ,  $y_4 = 13\%$ .

$$X = \begin{pmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \end{pmatrix}, \tag{3}$$

where  $x_1 = 69,7\%$ ,  $x_2 = 30,3\%$ ,  $x_3 = 0\%$ ,  $x_4 = 0\%$ .

$$W = \begin{pmatrix} w_1 \\ w_2 \\ w_3 \\ w_4 \\ w_5 \\ w_6 \\ w_7 \\ w_8 \end{pmatrix}, \tag{4}$$

where  $w_1 = 8.895\%$ ,  
 $w_2 = 20.25\%$ ,  
 $w_3 = 20.79\%$ ,  
 $w_4 = 17.205\%$ ,  
 $w_5 = 11.48\%$ ,  
 $w_6 = 9.455\%$ ,  
 $w_7 = 2.36\%$ ,  
 $w_8 = 9.565\%$ .

As in this example the calculation of a range for a commodity group "blouses" is calculated, the calculations have used a  $w_1 = 8,895\%$  coefficient.

$$Z = \begin{pmatrix} z_{11} & z_{12} & z_{13} & z_{14} \\ z_{21} & z_{22} & z_{23} & z_{24} \\ z_{31} & z_{32} & z_{33} & z_{34} \\ z_{41} & z_{42} & z_{43} & z_{44} \end{pmatrix}, \tag{5}$$

where  $z_{11}$  - a range of blouses of a direct silhouette for "winter" color type;  
 $z_{12}$  - a range of blouses of a direct silhouette for "summer" color type;  
 $z_{13}$  - a range of blouses of a direct silhouette for "spring" color type;  
 $z_{14}$  - a range of blouses of a direct silhouette for "autumn" color type;  
 $z_{21}$  - a range of blouses of a semi-adjacent silhouette for "winter" color type;

$z_{22}$  - a range of blouses of a semi-adjacent silhouette for "summer" color type;  
 $z_{23}$  - a range of blouses of a semi-adjacent silhouette for "spring" color type;  
 $z_{24}$  - a range of blouses of a semi-adjacent silhouette for "autumn" color type;  
 $z_{31}$  - a range of blouses of the fitted silhouette for "winter" color type;  
 $z_{32}$  - a range of blouses of the fitted silhouette for "summer" color type;  
 $z_{33}$  - a range of blouses of the fitted silhouette for "spring" color type;  
 $z_{34}$  - a range of blouses of the fitted silhouette for "autumn" color type;  
 $z_{41}$  - a range of blouses of a trapezoid silhouette for "winter" color type;  
 $z_{42}$  - a range of blouses of a trapezoid silhouette for "summer" color type;  
 $z_{43}$  - a range of blouses of a trapezoid silhouette for "spring" color type;  
 $z_{44}$  - a range of blouses of a trapezoid silhouette for "autumn" color type.

$$Z_{11} = \frac{X_1 Y_1 W_1}{100\% \cdot 100\%} = \frac{69,7\% \cdot 28\% \cdot 8,895\%}{100\% \cdot 100\%} = 1,74\%$$

Thus, the received formula is the tool for the calculation of a range of the enterprise. It can be used for the calculations manually, or to use for special programs, for example, Excel.

## 5. CONCLUSIONS

A problem of the effective planning of a range is solved by the formation of an effective product line policy of the enterprise. The conducted researches on the formation of the rational structure of a range of the sewing enterprise allowed solving the following problems:

1. The factors influencing the formation of a rational range of the enterprises fabricating clothes on the basis of individual consumer preferences are studied.
2. The mathematical model of the formation of the rational structure of a matrix of a range of the enterprises fabricating clothes is developed.

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