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Ensuring the Sustainable Organizational Development of Modern Economic Systems in Conditions of Qualitative Growth and the Global Economy

Aseguramiento del desarrollo organizacional sostenible de los sistemas económicos actuales en condiciones de crecimiento cualitativo y de la economìa global

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Content

ABSTRACT:
Based on the conducted research and analytical information, the article analyzes the reasons for the organizational development lag of the national economic system in conditions of qualitative growth and globalization of the economy. It is noted that in highly developed countries there is a transition from the organizational structures of a large-scale economy to self-organizing structures of a qualitative economy, connected with the significant acceleration of scientific and technological progress. The dependence of GDP growth rates on the proper order in the economic system is proved. The authors propose a new model for managing the economic system in modern conditions, based on self-organization, synergetic effect and horizontal interaction of market entities.
Keywords: Economic system, quantitative growth, the order in the economic system, dissipative medium, entropy and non-entropic processes in an economic system.

RESUMEN:
El artículo analiza las causas del retraso en el desarrollo organizacional del sistema económico nacional de países extranjeros en condiciones de crecimiento cualitativo y globalización de la economía sobre la base de investigación llevada a cabo e información analítica. En relación con la aceleración considerable del progreso científico y tecnológico se observó que en los países altamente desarrollados las estructuras organizativas de una economía de escala están cambiando a estructuras autoorganizadas de una economía cualitativa. Se comprueba la dependencia de las tasas de crecimiento del PIB del orden apropiado en el sistema económico. Se propone un nuevo modelo de dirección del sistema económico en condiciones modernas, basado en la autoorganización, el efecto sinergetico y la interacción horizontal de los participantes del mercado.
Palabras clave: sistema económico, crecimiento cualitativo, orden en el sistema económico, estructura disipativa, entropìa, proceso de la neguentropía en el sistema económico.

1. Introduction

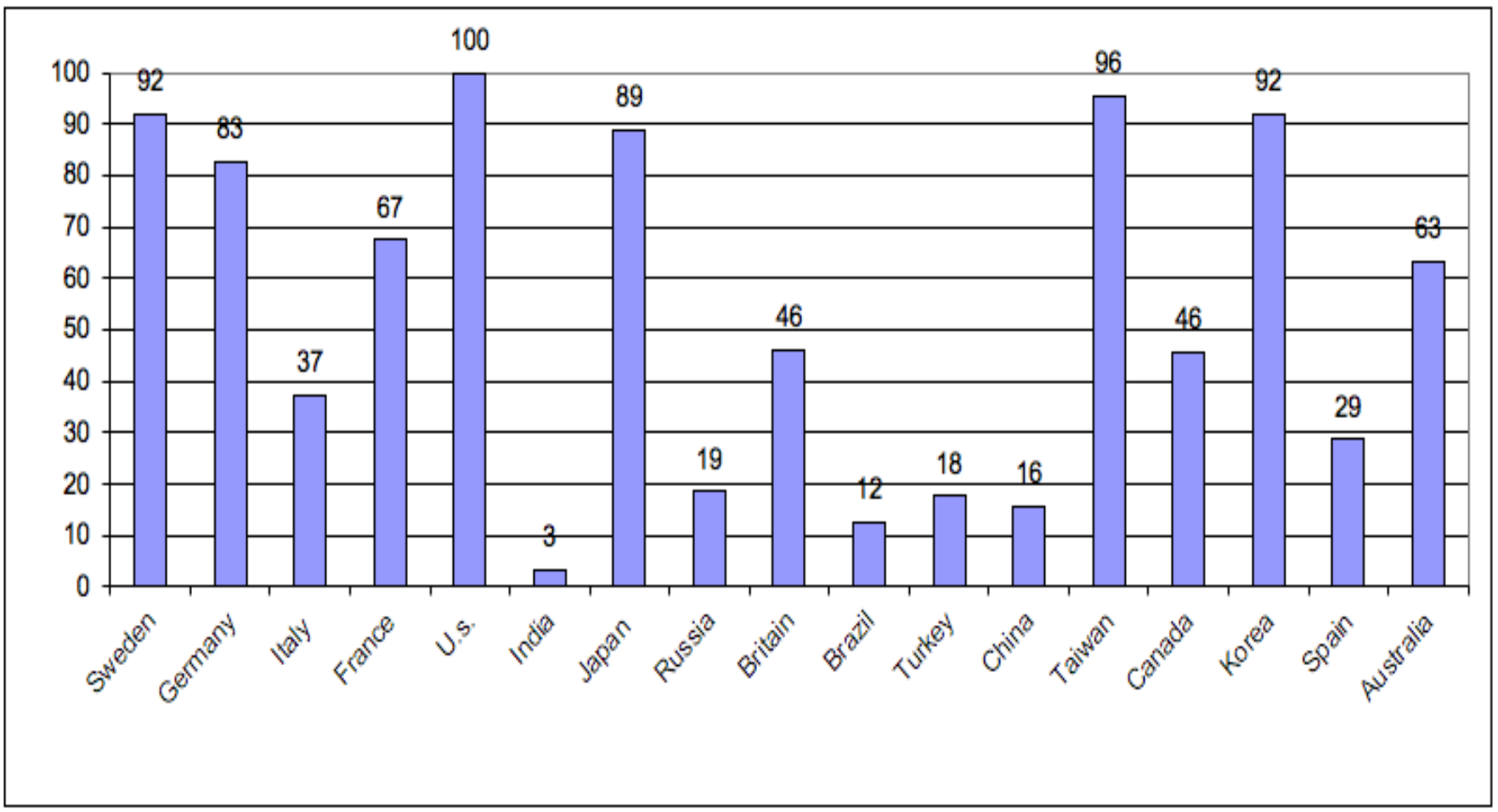
Market reforms implemented in the Russian Federation, in the 1990s, 2000s, 2010s, with the goal of creating a modern and efficient economic system that is steadily developing, independent of raw materials, still do not give the desired result. However, during this time the world economic system has undergone significant changes: the share of high-quality economy in the total production volume has grown dramatically. For example, the share of innovative products in the United States is 30-40% (reaching 80-90% in some sectors of the economy), in Russia it is only 8.5% (The percentage of innovative products ..., 2018), which indicates the Russian actual loss from the world trend.

The assessment of the level of the country's (region's) innovative activity is carried out by means of the corresponding IAK index (index of innovation activity), calculated as the ratio of the country's (region's) unit cost for research and development (per employee), to the corresponding highest index of the sample (for a leader country).

In general, the IAK index shows the overall governmental expenditure on research, development, and innovations throughout all sectors of economy (figure 1).

The index is calculated based on open data on different countries' expenditure for research and development (Ratay, 2016), Russia's R&D expenditure (Science and Innovations…, 2018), and the size of the labour force in different countries (The labour force in the countries, 2018).

Figure 1
Innovation activity (index) by countries (%)



The given data (fig.1) prove the innovative part to be at a very low level in the structure of Russian economy (19% from that of the USA). Besides, the rate of innovations' growth is much slower than the country's innovation potential allows.

There are several reasons for this problem. First, there are current negative changes in the Russian economy, connected to objective external factors as well (Social-economic development forecast…, 2015). Secondly, the structural shifts in innovation sphere are unjustifiably slow and inefficient (Gizatullin, 2018). Moreover, the mechanisms to commercialize innovations are inefficient; private businesses show both low innovational activity and demand for them; industrial business associations do not give a support, which could stimulate innovative activity.

The personnel issue also remains unsolved. The number of high-quality staff in the R&D

sphere constantly decreases, and the quality of both non-university high education and university one declines (The Report on Human Potential Development…., 2004).

Such problems, which were unsolved for decades, as well as the remaining resource-based character of the Russian economy lead to deceleration of innovation growth rate (The Report on Human Potential Development…, 2011) and a significant backwardness of Russia from leaders in innovations (the USA, Sweden, Germany, Japan, South Korea, Taiwan, etc.)

The «Global innovational index» – GII is used to assess the countries' innovation activity and efficiency according to the methodology suggested by Cornell University (the USA), business school INSEAD (France) and the World Intellectual Property Organization (WIPO) to analyze world's innovative systems.

The top countries in 2016, as well as in 2015 were Switzerland, Sweden, Great Britain, the USA and Finland. Russia occupied the 43th place, having risen 5 points (The Global Innovation Index, 2016, c. 20).

The rating, based on calculating the global innovative index, includes 82 different indicators, such as innovations efficiency, potential, framework for innovative activity, the level of institutes development, knowledge economy, human capital, the volumes of scientific research, infrastructure, the development of domestic market, business, technologies, the creative activity results and others.

The GII index itself is calculated as the average of two sub indicators:

1) Innovation resources based on the calculation of disposable resources and conditions for innovations implementations: human capital and science, infrastructure, institutions, business and domestic market development.

2) Innovations results, based on the calculation of achieved practical results from implementing innovations: creative activity, technologies and knowledge economy developments.

Besides the GII, the coefficient of innovations efficiency can also be calculated. It is the ratio of innovations results and innovations resources sub-indexes. As a result, the coefficient reflects the aggregate efficiency of innovative activity at a given level of innovative potential.

In the final report «The Global Innovation Index – 2017» Russia ranked 45, having lost some points compared to 2016 (The Global Innovation Index, 2017, p. 20).

However, despite the fact that the Russian index GII was steadily improving from 2014 to 2016 (from 49th to 43d places) and it dropped slightly in 2017, the Russian positions by the innovation efficiency coefficient remain extremely weak: it occupied the 69th place in 2016 and the 75th place in 2017, which reflects low efficient implementation of the country's existing innovational potential(The Global Innovation Index, 2017, p. 20).

In general, there is a mistrust and doubt to the course of direct governmental interference into economic process both from the point of view of its correctness and usefulness for citizens and society in general. Moreover, the transactional expenses to manage this bulky and inefficient system reach more than 40% of GDP. In comparison, in the USSR 1 million officials worked for 250 million people, but now in Russia there are 2,5 million officials for 140 million people, whose aim is mainly to hold their power and collect «the rent» from citizens.

Nowadays no positive economic results have been noted in the Russian Federation. But both the export of energy resources and the import of food, technologies and equipment have increased considerably. Furthermore, after the production of Russian enterprises dropped sharply in the beginning of 1990s, their economic results have not changed yet and leave much to be desired, that in turn encourages the increase in import and social tension, the decrease in economic competitiveness.

On the one hand, three periods of rubble devaluation (1998, 2008, and 2014) created the prerequisites for Russian enterprises to develop actively due to price increase for imported goods, spare parts, equipment, and so on. On the other hand, they led to growth in prices for home-made goods without revolutionary production renovation, innovation implementation, and human capital development. As a result, the giving opportunities were used inefficiently; there was no significant increase in production volumes, and, as a consequence, in added value. All money were spent on luxury goods for oligarchs and low efficient PR-events such as

the Sochi Olympics, Crimea, Football Championship 2018 in the frames of vertically integrated pyramidal (fractal) economy.

2. Methodology

The methodology and theory of the study is based on the fundamental concepts and provisions presented in classical and modern works of domestic and foreign scientists, statistical data of national and foreign agencies and institutions, and empirical data.

The following scientific methods are used to study the evolution of economic systems and organizational structures: modelling, scientific abstraction methods and abstractive thinking, which are closely connected to specific image of objects, its aspects and processes; methods of structural-functional, historical, logical, comparative, statistical analysis and others. Analyzing the efficiency of economic systems, a special emphasis was made on the provisions of the general theory of systems, while studying particular features of qualitative economy the focus was on synergy principles.

The research is based on generalization of practical experience in transforming Russian economic system, as well as on the one of developed countries in conditions of dramatical increase in the quantity of scientific and technical discoveries. But transformation processes have their peculiarities in different economies, connected to differences in the degree of their order and maturity, and the rate of innovational development. This challenged the use of foreign experience in working out the theoretical basis of organizational structures development. The article singles out problems linked with reconsidering and adapting foreign experience to Russian reality; it describes the ways to develop the country’s economic system in case it is dominated by the qualitative economy.

The following issues contribute to the novelty of research:

- It defines and analyses problems of providing a sustainable organizational development in national economic system;
- It identifies the role of synergetic processes in economic systems;
- It singles out specific features of transformational processes, connected to differences in the degree of order and maturity in a reformed economy, the rate of innovative development and openness of economic systems;
- It clarifies the notion of order in the classical economic system, based on its key features;
- It suggests the economic-mathematical model of national economy development rate, which takes into account different factors in economic system, such as the influence of institutional quality and performance.

The practical value of the study is determined by the fact, that its theories and recommendations can be used for further studying the problems of ensuring a sustainable organizational development of the national economic system and increasing the synergetic processes. The results can contribute to a qualitative social and economic development, relevant development of both the country’s organizational structure and the system to manage transformational processes in the Russian economic system.

3. Results

3.1. The problems to provide a sustainable organizational development of the national economic system

The analytical information on the Russian real GDP growth rate in comparison with other countries forces to search the reasons for this negative phenomenon. In particular, from 2011 to 2016, there was a negative trend, due to the drop in the real GDP growth rates to negative numbers (National Accounts, GDP, 2018). While the real GDP growth rate in 2011 equaled 5,1%, it decreased to 0,7% in 2014, and reached -2,8% in 2015 (International Monetary Fund, 2017, p.262).

As the result, the following factors, influencing the GDP growth rates can be singled out: the labour force quality, human development index, industrial development index. Russian indicators are high: IQ = 97 (Lynn, 2006), human development index = 0,78 (The Human

Development Report, 2014); the industrial production index for 2017 = 101,5 (National Accounts, physical volume indexes, 2018). The figures demonstrate that the country has a potential.

What is the reason for such lag in the GDP growth rates? The key factor is the Russia's lag in organizational development of the economic system. The current organizational model was formed in the period of transition from a planned to a market economy and it has accomplished its tasks long ago. The organizational structure of the Russian economy has not been developing for long. The existing vertically integrated organizational structure is not able to solve the problems of a qualitative growth and the global economy. The issue why the existing organizational model of the economic system is low efficient will be looked at in more detail.

The current Russian organizational model of the economic system is the one of vertically integrated state government based on large enterprises, so it does not suit modern approaches to managing an economic system in the qualitative economy. The functioning model is suitable only for managing linear processes in a large-scale non-innovative production, but it allows the bureaucracy to keep the power, as it is easier to control a dozen of state enterprises than millions of small and medium independent companies of the private capital. Besides, the current Russian management system is a closed one. Only officials benefit from such management. The state apparatus governs the business in this scheme that contradicts the modern state structure basis. It is absurd to have such a system in 2018, as the time arrow has passed this station long ago. What is the reason for this lag? Why did we stop to develop and actually exist in the 19th century?

The last 50 years can be characterized as an outburst in scientific and technological development. While in the past scientific discoveries were rare (5 – 6 in 100 years), now the process is the avalanche-type (up to 1000 discoveries in one year). This is the reason why obsolete autocratic managerial methods are inefficient, as we are not able to predict next discoveries. As a rule, new discoveries happen during the manufacturing process, therefore business should manage the state apparatus, not vice versa as in Russia, because the speed is a crucial factor in a decision-making process in a tough competitive environment. In the modern economy, the most efficient management processes are the self- organizational ones, as the experience demonstrates. The current innovative model is based on the processes of openness, self-organization and non-linear development, where the preference is given to small and medium highly dynamic innovative enterprises.

According to statistic, small companies make a substantial contribution into the development of economic systems in world leading countries. Now the USA has about 17 million small businesses creating 60% of GDP. Their share in non-agricultural sectors constitutes about 95 – 98%. The same economic structure developed in many other countries. The share of small business in such countries as China, Indonesia, Japan, and Germany is more than 60%, while in Russia it is less than 20%.

The current managerial model in Russia has long become obsolete and suits only for a large-scale production of low quality consumer goods. The modern competitive manufacturing represents a highly intellectual activity, based on intuition, new knowledge and self-organization processes without the state interference, i.e. this is the sphere of the qualitative economy. The latter differs from the growth economy by the domination of the creative aspect. The creative process develops better in an organization, focuses on horizontal creative cooperation between companies, but not on current Russian vertically integrated managerial models. In the modern qualitative economy the success is brought by self-organizing mobile small and medium companies due to synergetic effect, because they are the most efficient in the dissipative medium.

3.2. Synergetic processes and their role in economic systems

How a new development appears and turns into an innovative product is still a mystery. This happens mainly accidentally and can not be forecasted or we do not know these laws (Nizhegorodtsev, 2017; Gagarina, 2017). The nature uncovers its mystery unwillingly. To understand how new things appear from the existing elements, G. Haken created synergetics,

and I. Prigozhin developed the theory of dissipative systems.

The synergetics opens new principles for creating a complex entity from the given parts, clarifying the order of constructing complex self-developing structures from simple ones. It is not a simple addition of structures, in fact, there is a transition to a new qualitative level, with the effect of a new energy emergence. The whole is no longer equal to the sum of parts, it is no more and no less than the sum of parts, it is qualitatively new. Synergetics reveals regularities and conditions for fast, avalanche-type processes and the ones of non-linear, self-stimulating growth. Synergetics can be considered as a theory of new qualities formation at a higher level (Haken, 1991, p.45).

In the modern world, synergetics acts as a methodological basis for predictive and managerial activities. Synergetics focuses on the search for certain universal evolutional laws of open nonequilibrium systems of any nature (Knyazeva, 1993). To generate a synergistic process, a dissipative medium and an open system are necessary. The term dissipation is derived from the Latin dissipatio - "scatter", "destroy". Dissipative system (structure) is a distributed physical system in which energy dissipation (scattering) occurs and entropy increases. All real environments, including the economic environment, are dissipative ones. An important role is played by nonequilibrium dissipative media where energy losses are compensated by its inflow from outside through external fields and flows (Nikitin, 2014).

The dissipative system can be viewed as a certain stable state in a nonequilibrium medium under the dissipation condition of energy coming from outside. The dissipative system is in fact a nonequilibrium open system. When there is a certain order in the organization, the dissipative system begins to work efficiently. The effectiveness of the system is achieved by maximizing the potential of its constituent elements. The maximum system efficiency is characterized by the absence of losses in it, that is, the energy dissipation and the entropy are minimal and determined by the proper order in the economic system.

3.3. Dissipative order in the economic system: main indicators and maintenance conditions

The orderliness of any organization is measured by the entropy indicator – the state of the system from the internal order point of view. The more complex the system is, the more order and efficiency it has. The level of entropy in such a system is minimal. The order allows to reduce energy losses, increase the efficiency of the economic system, and achieve a greater synergistic effect due to the self-interaction of the system elements. The founder of the «synergetic effect» concept H. Haken defines the order in the system, as rules and conditions for the interaction of its elements. In his opinion, the main condition of the «synergistic effect» is the existence of a proper order in the system (Haken, 2001). The founder of a «dissipative space» concept I. Prigozhin believes that the more complex the order is, the more efficient the system is (Prigozhin, 1986).

The presence of order in the classical economic system is characterized by the following features: 1) the order how elements are located or act; 2) compliance with requirements, criteria, standards (laws); 3) distribution of functions and resources according to the approved structure; 4) subordination according to the approved hierarchy; 5) consistency in actions and objectives. As the number of order elements increases in the social environment, the quality of the their interrelationships also increases. However, the quality of the interaction between the elements will decrease if not all elements of the order are installed. To avoid such a problem, all order features should be established, which in turn will improve the quality of their interaction. In the course of the study, the authors found that in order to increase the efficiency of the economic system and to create a synergistic effect, order in the dissipative system must be supplemented by a number of system features, since the classical economic system is much simpler than the dissipative one. These are (in the priority order): 1) the openness of the system; 2) the quality of the adopted laws and regulations; 3) the unconditional obeyance of laws and regulations; 4) the feedback between the management object and the management subject; 5) the proper competence at all hierarchy levels; 6) filling the organizational structure with groups of people that have a certain total impact on the system at certain levels of the hierarchy; 7) the availability of working elevators in the

social system; and 8) an equitable remuneration.

Can the synergetic effect be achieved in the Russian economic system? The state of features should be analyzed to answer this question.

- **The openness of the system**. If the index of open government is taken as a basis, it equaled 0.49 for Russia (67th place in the world), 0.81 for Sweden, o.73 for the USA. The IAK index equaled 19 for Russia, 92 for Sweden, and 100 for the USA.
- **The quality of adopted laws and regulations**. According to World Bank research (Worldwide Governance Indicators, 2018) the Russian institutes' quality index has decreased from 40,2 in 2006 to 30,7 in 2016 (the maximum is 100; in 2016 the index amounted 91,8 in the USA, 95,2 in Great Britain, 83,2 in France, 96,2 in Germany, and 90,4 in Japan).
- **The Russian obeyance of laws (rule of law) index** has increased insignificantly from 18,7 to 21,2 between 2006 and 2016. Meanwhile, the index reached 92,3 in the USA, 91,8 in Great Britain, 89,4 in France, 91,3 in Germany, 88,5 in Japan, and 99 in Finland (Worldwide Governance Indicators, 2018).
- **The feedback from the managed subject**. The synergetic effect is impossible in closed systems and without a feedback. If the system is closed, there is no feedback.
- **There is no proper competence at all hierarchy levels or professional selection**. Though there is no reliable statistical data, some considerations can be made judging by non-professionals in the Russian government with its numerous deputy officials, the chairpersons of OAO «Gazprom», Central Bank, Sberbank, Rosneft and others.
- **Filling the organizational structure with groups of people** that have a certain total impact on the system at certain levels of the hierarchy.

Such total effects are called synergies, syncretics, entropics (Prigozhin, 1986).

Synergics are goals, motivators, competences, resources that create constructive tension, innovativeness and proactivity (outstripping activity), orientation to maximum achievements with multiple effects in the organization.

Syncretics characterize the order and measures for its maintenance, protective action to maintain integrity, consistency, and continuity of state, manageability.

Entropics are factors and forces of weakening or destroying order, the strength of destructive tension, mismatch with subsequent losses, and various disorganizations.

These forces operate in each organization simultaneously and interact in a coherent or contradictory manner. Each force has its own significance: syncretics provide stability, counteract entropics, and synergies provide progress. These «roles» should not be permanently assigned to these force vectors: everything depends on the stage of development in the organization, the state of the external environment and other conditions. Some synergies can become syncretics and even entropics. The impact strength of these groups largely depends on their domination by authority levels. The analysis shows the dominance of entropics in the upper echelons of power, and synergetics in the lower part of the hierarchy. A synergistic effect is impossible in the current model of entropic domination at higher hierarchical levels.

- **The availability of working elevators and filters in the social system**. The employees must be promoted only according to their professional achievements and competence, and on a competitive basis. This factor is presented insignificantly (35%). Protectism, nepotism, manager's comfort, family ties and paternalism are mainly developed.
- **An equitable remuneration**. The salary must depend on work results. Credit Suisse specialists ranked Russia first in the rating of most irregular world economies. According to their estimation, 1% of the Russian population possesses 74.5% of the country's wealth. The second place is occupied by India, where 1% of population owns 58.4% of the wealth, the third one by Thailand (58%). The Gini ratio was 0.42 in the Russian Federation, 0.31 in Germany, 0.25 in Norway.

So the quality of adopted laws and regulations and their execution determine the order in the economic system. The social order in it is the crucial factor providing the interaction quality of environmental elements. The main order features, identifying this quality, are ranked incrementally. Such ranking allows to asses the achieved quality level and take measures to increase it. The economic system must meet the following criteria to create self-organization conditions aiming at synergetic effect appearance: the system must be open; there must be a feedback; the competence must be adequate at all hierarchical levels; the hierarchy must be

complied; the objectives and actions should be consistent; subordination must follow the adopted hierarchy; the remuneration must be equitable.

Complicated processes happen within the organization based on such elements as values, objectives, rules, connections, decisions, motivators, and recourses. Their interaction can provide a positive effect, strengthening the organization and ensuring its prosperity, can stabilize the current state, or have a negative impact.

The World Bank suggested a methodology to research the efficiency and quality of government, which uses 6 indicators (indexes) (Worldwide Governance Indicators), reflecting different parameters:

- Voice and Accountability – the population's opinion and governmental structures accountability. The index reflects the main aspects of political rights, civil freedoms, and political processes. It measures the rate of population's participation in elections of various authorities, including the government; the freedom of press and speech.
- Political Stability and Absence of Violence – the level of political stability and the absence of violence. The index shows how stable the governmental institutions are. It also demonstrates the probability of significant reforms, destabilization, political course change, and taking over the government.
- Government Effectiveness – the degree of governmental efficiency. The index reflects how qualitative the state services are. It studies the citizens' loyalty to the government's home policy, the quality of this policy, state apparatus and civil servants work; as well as degree of officials' dependence on political course and pressure.
- Regulatory Quality – the level of law quality. The index shows the federal government's ability to lay down and execute the laws, allowing the private business and contributing to its development. It finds the measures, contradicting the market economy, including the excessive and inadequate control of prices, business, banks, trade and so on.
- Rule of Law – the primacy of law level (Novikova, 2013). The index demonstrates how confident the economic entities are in current laws, the degree of regulatory compliance, the legislative predictability, the crime level, the attitude towards the performance of contractual obligations, the efficiency of law enforcement and judicial system.
- Control of Corruption – control of corruption. The index shows the corruption perception in the society, the degree of elite's participation in corruption, the rate of using state power for jobbery, corruption at the highest political level, the impact of corruption on the country's economy.

Despite a great number of indicators, the order in economic system depends first of all on laws and regulations, controlling the system (hereinafter the institutions), as well as on the degree of their implementation and the adequateness of manager's professional competency to the tasks they perform. International statistic services identify the quality of institutions and their performance (the primacy of law) in different countries. According to the World Bank research data, the Russian institution quality index decreased from 40.2 to 30.7 (the maximum is 100). In 2016 it amounted 91.8 in the USA, 95.2 in Great Britain, 83.2 in France, 96.2 in Germany, and 90.4 in Japan. The obeyance of laws index (the rule of law) increased insignificantly from 18.7 to 21.2 in Russia between 2006 and 2016 (the maximum is 100). In 2016 the index was 92.3 in the USA, 91.8 in Great Britain, 89.4 in France, 91.3 in Germany, 88.5 in Japan, and 99 in Finland (Worldwide Governance Indicators, 2018). Also a special attention should be paid to such indicators as the openness of management system and the presence of feedback, as the synergetic effect is not possible in closed systems and without a feedback.

So, the given indexes of quality and obeyance of laws prove the low level of organization system development in Russia, its serious backwardness from developed countries, and in general a low level of order in the system. The existing organizational system in Russia is not up to the challenge of the current economy and lags by 30 – 40 years not meeting the needs of the age.

The integrated order index (calculated as the geometrical average of the quality and obeyance of laws indexes) also has a very low value 25.5, proving the absence of a due order in the economic system. This index equals 91.7 on average in developed countries, such as the USA, Great Britain, France, Germany, Japan, and Finland, where the economic growth reaches 2 – 3% or more (The International Monetary Fund, 2017, p.259). Therefore, in Russia the economic growth acceleration largely depends on the quality and performance of institutes.

On balance, the growth rate modeling of the national economy looks as follows:

$$\frac{dV}{dt} = \frac{dA}{dt} \times \frac{dB}{dt} \times \frac{dU}{dt} \times \frac{dG}{dt} \times \frac{d\sqrt{CP}}{dt}$$

or

$$V = (A \times B \times U) \times G \times \sqrt{CP}$$

where: V – the GDP volume expressed in monetary terms; A is the institutions' quality; B is the obeyance of laws index; G is the innovation activity index – IAK index; C is the equipment expressed in monetary terms; P is the number of people in manufacturing; U is the industry.

The most important results were obtained, according to the authors, while studying the influence of natural resource abundance on the GDP volume in oil and gas countries with strong and weak institutions. So, in oil and gas countries with highly developed institutions this influence was proved to be positive, while in countries with weak institutions the raw materials abundance has no influence on the GDP level. A larger influence of institutional development on GDP (per capita), compared with non-resource based explains the low development level of oil and gas countries with weak institutions. For this reason, oil and gas countries can achieve higher results compared to non-resource based ones if the institutions are highly developed.

On the other hand, if the institutions are developed poorly, the oil and gas countries will lag behind more than non-resource based ones. The analysis was conducted to identify the influence of certain institutional environment parameters on the GDP per capita in oil and gas countries. It showed that the level of institutional environment development has a significant influence on economic development (in particular, the GDP per capita) through management structure, licensing, taxation, property structure, unequal distribution of income, corruption, and a low efficiency of managerial decisions. If the level of institutional development increases in the country, the GDP per capita also increases. This figure equals 79242 dollars per capita in Switzerland, 70392 dollars per capita in Norway, 59629 dollars per capita in Iceland, 57436 dollars per capita in the USA, and 8929 dollars per capita in Russia (World Economic Outlook Database, 2017).

4. Conclusions

A high quality of institutions launches negentropic processes in economic systems in developed countries (in particular, this index equals 96.2 in Germany, 95.2 in Great Britain, 91.8 in the USA, 90.4 in Japan, and 83.2 in France). A low institutional quality (30.7) creates entropic processes in the system in Russia. Instead of creating quality growth enterprises, the dissipative environment starts to form malignant growth environment, that in turn, leads to significant loses in production and human capital (The Human Development Report, 2011) in industries (more than 69%). On balance, the way of national economy development growth depends largely on the economic system organizational development.

The key problem of the national economy inefficiency is the lag of current institutions and the absence of synergetic order in organizational structure (Lisichkina, 2015). The relationships' regulation between the state and the business constitute one of the main problems in the Russian economy, as they are subjected to the criminal law, while in advanced economies they are the subject of the administrative law. The regulation by the criminal law significantly decreases the sphere of business activity, who are charged an additional rent by officials and law enforcement bodies. The Russian organizational structure for managing business does not meet up-to-date requirements, and this is the main reason for the failures in its economic system, as research results suggest. The authors believe, this situation is due to the habit to manage all processes, which roots back to the USSR, as the country is governed mainly by the former All-Union Leninist Young Communist League and Communist Party workers. Now to create the synergetic effect the Russian economy needs a revolutionary step towards self-governed synergetic systems with the highest efficiency and new qualities formation. In the new model, the officials should solve only social problems and protect the citizens from the excessive greed of businessmen using institutional methods. The «time arrow» should be

observed, as the result, the economic organizational structures should be constantly adapted to new technical and social facts of life.

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