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TRANSFORMATION OF VIEWS ON LIFE CYCLE OF ORGANIZATIONAL SYSTEMS IN THE NEW ECONOMY

The purpose of this study is to determine the characteristics of the stages of development of an organizational system in the new economy, within which formed the new economic conditions and, as a result, new requirements to the organization management and development. In particular, the technological singularity, which is one of the features of development in the new economy, necessitates a change in strategy catching up on the strategy ahead of development.

Keywords: life cycle, technological singularity, innovativeness, intellectualizing.

Problem. Changes in economic conditions that occur as a result of globalization, increased competition, complexity of relationships in the economic system as a whole leads to the emergence of the so-called new economy and require the need to use innovativeness as objective conditions of survival, and, consequently, new approaches to understanding of the life cycle of the organizational system.

Analysis of recent research and publications. Basic principles of organizational systems outlined in the writings of many scholars, including I. Adizes, L.Hrinera, O.Kuzmyna, V.Shapiro, O.Melnyk, T.Bazarova et al. The issue of innovation based on much attention paid to the works of such scholars as J.Schumpeter, B.Santo, P.Druker, I.Ansoff, B.Tviss, N.Lapin, L.Vodachek, Yu.Yakovets, L.Salomatina, P . Fatkhutdinov, S.Ilyenkova, A.Vlasova, N.Krasnokutska, V.Heyets, Yu.Bazhal, O.Lapko, O.Amosha, A.Halchynskyy, H.Androschuk, O.Kuzmin, Y.Petrovych, L.Fedulova and others.

Problem. The main objectives of this study are:

- Outline the main features of the new economy;
- Determine the point of singularity in the life cycle of organizational systems;
- Determine the nature of spectrallity of lifecycle organizational system.

The main material of the study. Considered by the authors mentioned above life cycle model of organizational systems related to classical systems theory. According to this theory the development system is linear. This means that at each phase of the organizational system is the linear idea of its future, which differs little from the current state of the system and, accordingly, expectations of future performance are too linear.

In a traditional economy such patterns of development are acceptable and quite understandable. However, the present economic dictates new rules, which are defined trends in the overall economy. This refers to aspects of the growing influence of globalization, instability and the consequent unpredictability of the

market, difficulty adapting to the new working conditions, increased competition to the level hipercompetitiveness. Scientists believe that today is the turning point of transition from a traditional economy to a so-called new economy, in which the old principles of management no longer apply. It is therefore necessary to look for new approaches to business.

We need to clearly define the features of the new economy as such. The new economy appears at the junction of unprecedented technological capabilities, global trends, challenges and consequences, many of which are destructive, that is inherently risk threats innovativeness of economy as a process [1].

The features working in the new economy are [2, 3, 4]:

1. The life cycle of products and services is constantly decreasing. Accelerating progress stages of the life cycle is so rapid that it is appropriate saying: "If you are experienced in technology, then it is already obsolete."

2. Increased consumer audience leads to what consumers control the market through constant comparison, evaluating alternatives and selecting the best deal.

3. The environment of business is changing so fast that the balance of power is changing from a position of "big survives small" in position "fast slow survives."

4. Hold position in the market is only possible continuous learning, and it is important not luggage already acquired knowledge, and the ability to quickly study and exploration of new knowledge.

5. Transfer focus from an industrial economy to an economy that is guided by knowledge and innovation.

The new economy emerges as a result of intellectualization of society and the working environment. This is reflected in the increased share of intellectual labor in the total scale industrial and consumer sectors.

Intelligence of social life is accompanied by the following changes:

- Firstly, the growth of a layer of people for whom mental work is their profession;

- Secondly, the growth of the share of intellectual abilities workers in value added;

- Thirdly, the growth of the intellectual level of consumer audience that enjoys the results of intellectual production.

Thus, based on the intellectualization, and hence the new economy is the development of intellectual potential. Accordingly, the new economy is also called knowledge economy, economy of knowledge, economy postmodern, knowlegebased economy (ie economies based on knowledge).

The transition to the new economy is logical, because even today experts estimate the value of intangible assets is one-third the value of all global assets. [1] In terms of capitalization of individual firms intangible assets represent about 90% [2]. For example, the structure of the market value of Microsoft, which is 375 billion, the book value is 14 billion. For the company, IBM, these figures were respectively 159 and 20 billion., The company Intel - 200 and 28 billion. [5]

Changing trends in market transformation processes capitalization increasing importance of intellectual resources as a determinant in the enterprise changes the priorities of economic development in general. According to research analysts Horizon Scanning Centre (UK), in the new economy emerging eight priority areas of science and technology, namely the creation of materials with improved properties, robotics, energy technology, information and knowledge management, nanotechnology, Computer Network of Technology; research in the field of

national security, the development of technologies and tools for early detection and monitoring.

According to the same analysts, the development of these areas of science and technology have significant both positive and destructive transformational potential. This effect is manifested in the following aspects [1]:

1) to the global challenges posed by the growth of technological capabilities of mankind. These include:

- Firstly, the energy challenges as stipulated rising cost and scarcity and exhaustion of non-renewable energy sources. Alternative energy, which takes the development is very costly today, however, and harmless, as well as traditional energy resources. Organization of energy systems, processes, storage, transportation, energy, management of traffic demand radical changes as a result of constantly growing demand for energy consumption;

- Secondly, the environmental challenges that are becoming a growing problem due to the fact that nature has no time to recover its balance, and human livelihoods is becoming more harmless. Therefore, the issue of recycling is becoming current importance;

2) the global trends that characterize the growing demand for innovation. The main trend of today's economy is the growing proportion of intangible assets and the increasing role of the intellectual class. As intangible assets grow old very quickly, they need to be updated, and the economy must work at high speeds. The basis for these processes is the intellectual potential in constant development.

3) in the poorly predictable consequences innovativeness, manifested in its multiplier effect. To meet the challenges of technological growth cycles of converting resources involved in all areas of human life, and therefore, these areas have evolved positive and negative.

Thus, the new economy, based on the development of new technological capabilities have to meet the challenges, to capture specificity trends and react to their changes, to overcome the destructive effects innovativeness.

In the context of this vision we can talk not only about the new economy as such, but also about era of technological singularity, which is characterized by rapid technological growth opportunities are virtually limitless [6, 7]. Future is poorly predicted due to the speed of changes in the external environment.

The term "singularity" previously used in mathematics to determine the point at which a mathematical object (usually a function) is not defined or has irregular behavior (eg, the point at which the function undifferentiated), and to explain the laws of gravity. Today the term is often used to explain uncertainty future inability predicting changes that will take place. Growth intellectualization of society leads to increased technological possibilities opened up to humanity. Issues moving, information exchanges and require less and less time to solve. Consequently, management decisions can be made promptly, and thus changes in activity occur more promptly. Knowledge exchange, technology transfer - all these processes contribute to the progressive development, which already loses its linear nature and does not allow static strategy. Therefore there is a need to study the technological singularity as an objective process of transformation of the economic environment.

Implications of technological singularity appear on the general level of the economy and the level of the individual enterprise as part of the economic system (Table 1).

Table 1 - Effects of technological singularity.

Implications of technological singularity	
on wide level	for the individual enterprise
economy must learn to function in conditions of constant acceleration updated technology, technology of product development	enterprise must learn to change the strategy of catching up on the strategy ahead
economy must learn to operate under the appearance of limiting innovation that can radically change the structure of market niches	company must adapt to work in a poorly predictable future. In other words, in a nonlinear future
economics should understand all the risks that arise when using new features such as new technologies, which necessitates the creation of new tools to control of their use	enterprise must learn to change the internal structure and organization and management to adapt to the changes that result from technological growth

As seen from Table 1, linear planning of future development is not justified. Instead of a linear representation of the future comes to understanding progress as exponential process. This stems from the emergence of the so-called "marginal" innovations that could radically change the market structure. Experience shows that the influence of the "boundary" of innovation in the early stages of their use is limited, however, approaching a maximum limit their application is accompanied by an exponential growth in consumption. Character linearity gets lost and takes shape exponent, which is rapidly directed in the vertical direction. Thus, we can say that the main criterion for singularity is a vertical nature of progress.

However, in the transition to a new phase of the economy there is a need of a new perspective on the course of the development phases of the organizational system.

Referring to the life cycle of organizational system define the period of singularity in its development. It is believed that the singularity occurs from the moment the development of organizational systems begin to affect restriction, namely, since the growth phase [8]. However, in this approach, we believe there is a contradiction. Firstly, limitations occur throughout the life cycle of the organizational system, including the initial operation of the organizational system, ie at the stage of nucleation. Therefore ascribe the onset period singularity at the stage of growth, based on the emergence of limitations is incorrect. Secondly, just at the initial stages of organizational systems may be used more linear approach to development planning. It is a logical process of becoming an organizational system. And only the critical phase – the phase stability, provokes approaching singularity as such. The explanation for this lies in the fact that this stage is the last active phase of the life cycle of the organizational system, after which comes the passive phase – the decline of the system. At this stage, the impact of restrictions is particularly significant and to prolong the time phase stability, organizational system can no longer work in the old mode. Actually at the moment vision loses its linear character. This version of events is as follows:

- In insolvency organizational system to reach new frontiers of understanding and awareness of the need for change, extension of linear planning and

development phase begins passivity decline. And in terms of the singularity of the decline is very rapid;

- The perception of organizational system situation as one that cannot grow by old scenario, awareness of the fact that the rate of change is very rapid, comes understanding singularity as signs of present and awareness of the need for radical change is necessary, use innovativeness.

If we turn to consider the life cycle of the organizational system as a spiral process which is regarded by us as a spiral in the plane [9], is based on the effects determined singularity we can talk about surround option helicity of the life cycle of the organization. Step volumetric spiral, which determines the height of its promotion depends on the vertical nature of progress, and the width of the spiral is determined by the results of the promotion of the progressive development of the system (Fig. 1).

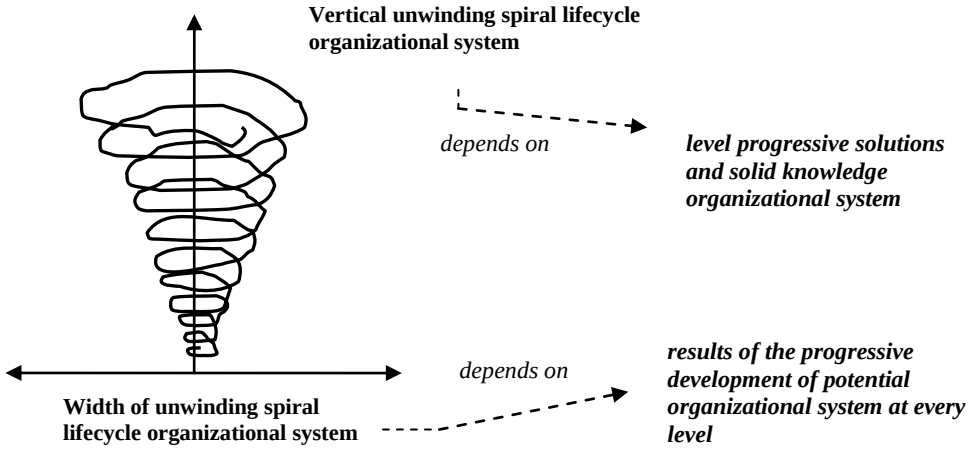

Fig. 1 – Surround appearance helicity lifecycle of organizational system.

Conclusions from the study. This study suggests that changes in the conditions of globalization the management of organizational systems should include provision of permanent irreversible process of innovativeness as a mandatory condition of development. This transformation experience and traditional views on the structure of the life cycle of the organization. In general the impact of internal and external factors on the course of its cycle, should be taken into account fundamental moments such as the development of an array of organizational knowledge through activation of intellectualization. All these questions partly processed and require further research to specify the conditions of innovativeness as an objective process of organizational systems.

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