

## INTELLECTUAL ECONOMICS AND CREATION OF A KNOWLEDGE BASED SOCIETY AND KNOWLEDGE ECONOMY: NEW CHALLENGES IN THE CONTEXT OF GLOBAL TRANSFORMATIONS

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**Abstract.** The problems of the creation of a knowledge based society and knowledge economy in the context of globalization, as the scientific problems of intellectual economics, are analyzed in this theoretical article.

The processes of the creation of a knowledge based society and knowledge economy in the context of global transformations are defined and described as a new and very important area of the research on intellectual economics. The complexity of global transformations and the knowledge based society and knowledge economy creation processes is analyzed. The knowledge based society and knowledge economy creation processes are defined as an important and specific type of global transformation, these processes are characterized as the processes belonging to the category of global transformation processes: it means that the complex interaction between the general processes of global transformations and the processes of the creation of a knowledge based society and knowledge economy is a very important factor of the positive changes in the societal life in the context of globalization.

The complex analysis and the multidimensional evaluation of the processes of global transformations and of the knowledge based society and knowledge economy creation, as a perspective theoretical approach in research on societal changes in the context of globalization, is defined and described in the article.

A variety of global transformations are described, the main processes of the creation of a knowledge based society and knowledge economy in the context of globalization are identified and studied. The main phenomena and regularities of the global transformations are identified, their impact on the real processes of a knowledge based society's and knowledge economy's creation is characterized.

Scientific research on the processes of the creation of a knowledge based society and knowledge economy in the context of globalization is identified as a perspective way of deepening and improvement of intellectual economics.

**JEL classification:** A10, F01, F59, O39, Q59

**Keywords:** intellectual economics, globalization, transformation, knowledge society and knowledge economy

**Reikšminiai žodžiai:** intelektinė ekonomika, globalizacija, transformacija, žinių visuomenė ir žinių ekonomika

## 1. Introduction

*Intellectual economics* could be defined and described as one of the most important areas of the contemporary *economic science*, because the main ideas of intellectual economics are oriented towards the creation and further modernization of a *knowledge based society and knowledge economy*.

The main problems of intellectual economics should be analyzed in the context of the challenges of the creation of a knowledge based society and knowledge economy: it is obvious that the creation of the knowledge based society and knowledge economy is perceived as one of the most important *priorities* of the modern society and its lifestyle development, as well as of social, economic, political development, science and technological progress, especially—in the European Union.

The creation of the knowledge based society and knowledge economy is assessed as *the most important assumption* and *the main way* to solve most of the social, economic, technological, even security and defense problems worldwide as well as in various countries or regions in general and in various countries or regions in the space of the European Union.

The processes of the creation of a knowledge based society and knowledge economy expresses the *essential qualitative changes* in all the areas of social, economic, political life, science and technological progress, and interaction with nature. The processes of the creation of a knowledge based society and knowledge economy deeply influences the content of *globalization* processes and the effect on a situation in the modern world.

It may be noted that the processes of the creation of a knowledge based society and knowledge economy, in general, could be perceived and assessed as an *essential worldwide transformation*, which determines a number of *breakings and sallies*, important to all of humankind.

The processes of the creation of knowledge based society and knowledge economy must be analyzed *in complexity*. In general, the processes of the creation of knowledge based society and knowledge economy could be defined as the processes belonging to the category of *global processes*: it also means that the *complex interaction* between the processes of *global changes* and the processes of the creation of knowledge based society and knowledge economy is a very important factor of the *positive development* in the societal life in the general context of globalization.

There are very different theories and theoretical models for a knowledge based society and knowledge economy creation processes, as well as different theoretical models of these processes. The problem is that the knowledge based society and knowledge economy creation processes and the processes of global transformations are usually analyzed separately: the factor of the *complex interaction* between different processes of global transformations and the processes of the creation of a knowledge based society and knowledge economy is often ignored. It means that a complex analysis of the processes of both types, as well as an evaluation of the factors of interaction between these processes, could be defined as a perspective way to solve some actual theoretical and

practical problems in the area of knowledge based society and knowledge economy, especially in the context of globalization.

The main idea of the complex analysis and of the evaluation of the factors of interaction between the different processes of global transformations and the processes of knowledge based society and knowledge economy creation is that all these processes as *a general global transformations* are defined and analyzed, and the new challenges for creation of knowledge based society and knowledge economy in the context of globalization are identified. This idea is described in details in the article.

**The object of this article** is the processes of global transformations, especially—the creation of a knowledge based society and knowledge economy. The main focus is put on the interaction between the processes of knowledge based society and knowledge economy creation and of the general processes of global transformations in general context of globalization. Scientific research on the processes of the creation of knowledge based society and knowledge economy in the context of globalization is identified as a perspective way of the scientific research on intellectual economics in general.

**Tasks of the article:**

- to identify the processes of the creation of knowledge based society and knowledge economy in the context of globalization as an important area of the scientific research on intellectual economics in general;
- to explore the new definitions and to systematize the general processes of global transformations, to describe the main global transformations and to identified their role;
- to describe the main peculiarities of the knowledge based society and knowledge economy creation processes in the context of globalization;
- to explore the main challenges for societal development in the context of global transformations, including—in the context of knowledge based society and knowledge economy creation processes.

The main ideas of the article could be defined as partly controversial. It may be noted that these ideas, in general, could be defined as the basis for further scientific discussion and as the basis for the research on the processes of knowledge based society and knowledge economy creation in the context of globalization, especially—in the conditions of European integration and enlargement of the European Union.

**2. The new theoretical approach of scientific research on intellectual economics: the complexity of global transformations and the knowledge based society and knowledge economy creation processes**

The processes of the development and changes in the contemporary society are very complicated and controversial. A lot of new phenomena and circumstances show up under the contemporary conditions of social, economic, political development and progress of science and technologies. In order to understand and react to them, it is necessary to see into so-called *problems of the complexity of the development processes*

and changes of different types and nature and to strive that these problems were solved adequately with the new challenges in the life of the society.

The complexity of the global transformations and the knowledge based society creation processes could be defined as an especially important case: the importance and significance of this case are indicated by the dominance and prevalence of the processes and problems of globalization, as well as processes and problems of knowledge based society and knowledge economy creation in the context of the changes, development processes and problems of the contemporary society and its life in general, especially—in the European cultural, social, economic and political space.

Modern attitudes to the complexity of the global transformations and the knowledge based society creation processes, to the concept of complexity of these processes, as well as to the understanding and salvation of the problems of knowledge based society and knowledge economy creation processes in the context of globalization can be characterized by extremely wide *variety*. The research of the problems of complexity of the global transformations and the knowledge based society creation processes is *multi- and interdisciplinary* by nature, must inevitably have attitudes to social and economic development, progress in technologies, environmental protection and changes in the modern society and its life, which reflect various areas of science, integrated in them. An important aspect of the research on complexity of the global transformations and the knowledge based society creation processes is a *regional* one, since various social, economic, technological, ecological factors are assessed *in the extent of variously identified regions*, by trying to reveal the interaction of processes and changes of different nature in various regional systems herewith. This aspect could be defined as especially important in the conditions of European integration and enlargement of the European Union (Armstrong, 2006; Ravenhill, 2008; Melnikas, Reichelt, 2004; Melnikas, 2011).

The problems of knowledge based society and knowledge economy creation, including—in the context of globalization, are analyzed through various aspects in a number of scientific works. Particularly important are studies of the knowledge based society and knowledge economy creation processes in the global space, as well as in European Union and in different countries (Boldrin, Canova, 2001; Cohendet, Stojak, 2005; Currie, 2000; David, Foray, 2002; Dicken, 1998; Garrett, Mitchell, 2001; Goeransson, Soederberg, 2005; Grace, Butler, 2005; Hayo, Seifert, 2003; Hunt, 2000; Huseman, Godman, 1999; Leydesdorff, 2004; McNally, 1999; Melnikas, 1990, 2002, 2008, 2011; Olsen, Osmundsen, 2003; Parker, 1998; Perraton, 2001; Redding, Venables, 2004; Sangmon, 2002; Steinmueller, 2002). Traditional attitudes to the knowledge based society and knowledge economy creation emphasize the *technological priorities*, the *new values*, the *new models of lifestyle* as well as necessity to ensure the internecine compatibility and compensation of developmental processes and changes that have different nature. At the same time it can be seen, that most of the scientific works on knowledge based society and knowledge economy creation does not pay sufficient attention to the impact of the knowledge based society and knowledge economy creation processes on the development processes in the global space as well as in the various sectors of societal life. On the other hand, most of the scientific works on knowledge based society

and knowledge economy creation processes are not directly oriented to the solving of *actual problems* of economic, social, political, technological, ecological *development*, especially—economic, social, political, technological, ecological *sustainability* and *sustainable development in general* (Castells, 2000-2004; Friedman, 2006, 2009).

The *concepts* of the knowledge based society and knowledge economy as well as the concepts of the knowledge based society and knowledge economy creation processes are very multiple (Castells, 2000-2004; Cohendet, Stojak, 2005; Currie, 2000; David, Foray, 2002; Goeransson, Soederberg, 2005; Grace, Butler, 2005; Huseman, Godman, 1999; Leydesdorff, 2004; Steinmueller, 2002). There are many concepts of university studies, education systems, innovations in the context of knowledge based society and knowledge economy creation processes.

Therefore, it is obvious, that the concepts of the *knowledge based society* and of the *knowledge economy* may be defined and described differently.

In general, contemporary practice of scientific research on problems of knowledge based society and knowledge economy creation is characterized by the prevalence of the *specific* studies and research works, which are oriented to the *separately research* on various specific topics of knowledge based society and knowledge economy creation problems and processes: various aspects of the *complexity* of the processes of the creation of knowledge based society and knowledge economy in the context of globalization have not been investigated.

It must be noted, that modern attitudes on the creation of a knowledge based society and knowledge economy should deeper reflect the role and influence of *new type transformation processes* that are taking place in the world now. The most important role and influence are of those transformations, which reflect *the global spread of values and ideas of the knowledge based society and of the new knowledge creation processes*. It is possible to claim that the essential *priority* of the actualization of the traditional concepts of knowledge based society and knowledge economy creation and development processes is that the modern concept should be oriented to the complexity of social, economic, technological, ecological development processes and must reflect both the global transformation processes in general and those global transformation processes, which reflect the creation of knowledge based society and knowledge economy.

### **3. The global transformations as a general context of the processes of knowledge based society and knowledge economy creation: the priorities of scientific research**

Situation in the contemporary world is more and more conditioned by multiple globalization processes, which appear in all areas of political social, economic life, and in all sectors of culture as well as of science and technological progress. Globalization processes proximately influence society's lifestyle and the quality of life, as well as the *changes*, which take place in all areas of life (Ravenhil, 2008; Friedman, 2006, 2009; Appiah, 2007; Castells, 2000-2004; Chossudovsky, 2003; Melnikas, 2002, 2011). Besides,

the perception and assessment of the *meaning of globalization processes* regarding the *content and singleness of changes* in the world are considered a *very important assumption* to scientifically cognize and adequately analyze the *nature* of globalization itself: it is obvious, that deep and complex cognition and analysis of globalization processes are possible only in those cases, when globalization processes are treated as changes, which *take place in a global extent*, and as *global environment of such changes*.

The relation of the conception of globalization processes to global changes and their environment allows *speculating* that the so-called *processes of global transformations* are considered *exceptionally significant* among globalization processes. The reason for such speculation is the fact, that the essence of transformation processes (or, simply, transformations) is *qualitative changes*, which determine the *creation of new systems*: globalization processes namely express the world's *qualitative changes*; therefore, the *transformation processes* are treated as *exceptionally important and significant in the general whole of globalization processes*.

*Global transformation processes* are characterized by a *wide variety* and may be identified and classified according to various features. The following features may be treated as the most important ones among the features, which should be taken into consideration when identifying and classifying *the processes of global transformations*:

- features, which characterize *natural and climate conditions*, as well as their influence on various global changes and situation;
- features, which characterize *human resources*, their potential, change of its structure, as well as global role of human resources;
- features, which characterize the *society*, its development, structure, change dynamics, as well as features, which help to describe various *types and models* of the society itself and its organization, and *global spread and spread dynamics* of these types and models;
- features, which characterize global variety and spread of *cultures, mentalities, value systems, models of lifestyle, and social behavior stereotypes*;
- features, which characterize the processes of social, political, economic development, as well as science and technological progress, the impact and consequences of these processes, which appear or may appear globally.

The above-mentioned features, as a unit, as well as various their combinations allow universally and complexly describing the modern processes of global transformations and their variety. It is obvious, that regarding the complex cognition of global transformations, other features, characterizing such transformations may appear.

The variety of global transformations is also shown by the fact that global transformations may be identified, assessed and analyzed by *two* different approaches:

- *geographically regional* approach, when global transformations, their expression or their impacts on the society and its life are assessed and analyzed according to a country, region, continent or other *geographically or regionally identified system*;
- *sectoral* approach, when global transformations, their expression or their impacts on the society and its life are assessed and analyzed by distinguishing

certain *sectors*, out of the whole of global transformations, which are identified by regarding the content, character or forms of expression of global transformations themselves, and by assessing and analyzing the global transformations *according to various sectors* (besides, various sectors may be identified by highlighting multiple features, typical of the global transformations themselves).

Moreover, the variety of global transformations show that *global transformations, as a unit, are exceptionally complicated area, which requires scientific cognition and research*. It is possible to claim, that the *underlying aim of the research* in this area is to assess and foresee possible impacts of global transformations on the society, its development, its life, as well as to make assumptions for purposeful influence and management of the society development processes.

The impacts of global transformations on modern society in general and on the changes in its life, development and progress are *multiple, complicated and even contradictory*.

Several circumstances determine the *multiplicity and complication* of the impact of global transformations on the society and changes in its life. Firstly, global transformations themselves are characterized by a *variety of typical features*, which inevitably condition the multiplicity and complication of these transformations and their impact. Secondly, global transformations, as a unit, may be identified as composing *different geographically regional or sectoral systems*: the variety of different geographically regional or sectoral systems reflects the multiplicity and complication of the impact of global transformations on the society and changes in its life. Thirdly, *controversial tendencies*, when certain development, progress and change processes evoke *positively and negatively* assessed results, inevitably appear under the conditions of the variety, multiplicity and complication of the global transformations and their impact on the society and changes in its life.

All in all, it is possible to claim, that global transformations, as a unit, are characterized by exceptional complication, variety and multiplicity, as well as great impacts on all changes, which take place in all areas of life, their content and trajectories. These circumstances reveal the importance and significance of global transformations. These circumstances also show that global transformation processes and their impacts on the modern society and changes in its life require a more detailed description.

Global transformations, which express *the changes of natural and climate conditions*, are very significant because these transformations reflect new challenges and needs to solve multiple ecological problems, radically reduce environmental pollution, save limited natural resources and seek for new alternatives for the use if these resources, as well as implement the means for the prevention of natural disasters and the reduction and elimination of their results (Friedman, 2009).

Global transformations, which express the changes of natural and climate conditions, may be perceived and assessed as the ones, which:

- determine the appearance and expression of new multiple threats, dangers and risks; firstly—the threats, dangers and risks, which arise out of the increasing

- pollution, clear limitations to use natural resources, also due to new negative results, which are caused by the changes of natural and climate conditions;
- determine the needs to implement essential technological sallies and changes in various sectors, especially in energetic, manufacture industry, environmental protection, also which determine the needs to create, modernize and spread alternative technologies, meant for adequate adaptation to the changing natural and climate conditions;
  - determine both tendencies and needs to initiate, spread and implement *new models and priorities of lifestyle, social behavior, economical activity, as well as development and technological progress*, and pay most attention to the adaptation to the natural and climate changes, the *reduction and elimination of negative results*, and the *stop of undesirable changes*;
  - determine the necessity to react to the *new type differentiation forms*, which appear in the world, continents, countries or regions, and which show that natural and climate changes stimulate the increase of life conditions differentiation of people from different continents, countries or regions, including social groups or layers. The increase of such differentiation will stimulate the creation of assumptions that *new conflicts* among various layers and interest groups of the international society would increasingly appear. It would also stimulate mass expression of needs to *develop international communication and provide support* in order to decrease and eliminate the threats and dangers, which appear under the conditions of differentiation increase.

The significance of global transformations, which express the changes of natural and climate conditions, is shown by objectively highlighted influences to implement *qualitatively new principles and standards of the development and management of various eco-systems* globally. Essential changes in the modern society and its life are inevitably determined by the creation, spread and implementation of such principles and standards (Melnikas, 2002, 2010, 2011).

Global transformations, which express *the changes of the potential of human resources and its structure*, are especially significant due to two essential reasons. Firstly, these global transformations reflect the *changes of human resource potential* and their influence on the change of the modern society and its lifestyle. Secondly, these global transformations reflect the *efficiency and usefulness* of various impacts on the potential of human resources and its change.

Global transformations, which express the *changes of the potential of human resources and its structure* may be perceived and assessed as the ones, which:

- reflect and influence *demographic situation* and its changes globally, in separate continents, countries or regions, among different social groups and layers, as well as in the spread areas of different ethnic, confessional, cultural or other mentality groups;
- determine the impacts of demographic situations and their changes on the developing economical, social, political, ecological or other situation in the world, in separate continents, countries or regions;



- determine possibilities and assumptions that *new threats, dangers or problems*, which will be caused by the changes in the demographic situation, will inevitably appear in the world, in separate continents, countries or regions;
- show the variety of *reasons*, why the structure of human potential and demographic situation change, as well as the variety of *possibilities* to influence the changes of demographic situation.

The significance of global transformations, which express the *changes of the potential of human resources and its structure*, is shown by *objectively appearing* needs of the world, separate continents, countries and regions to implement *newly perceived humanistic orientations*, which reflect an increasing priority of natural human rights and freedoms, as well as *complexly treated* pursuit to *improve the life quality*: namely the perception, highlighting and implementation of the importance of *humanistic orientations* must be treated as the basis to react to the global transformations expressing the potential of human resources and the change of its structure (McNally, 1999).

Global transformations, which express *changes typical for modern society, its structure and organization*, are very significant for several essential reasons. Firstly, these global transformations reflect *quite controversial processes* happening in the world, when *assimilation and variety increase tendencies* are typical of the change of society structures in different countries and regions. Secondly, these global transformations reflect the tendencies of the *convergence of various society organization forms*, including the tendency, the essence of which is *convergence, multiple integration and even assimilation of a country's models and types*, typical of a modern country, as the highest form of the society organization. Thirdly, these global transformations reflect very significant *changes*, which are typical of the *role, activity and influence* of modern countries, various international organizations, as well as international business subjects and other organizations, movements or formations. Fourthly, these global transformations reflect *new type threats, dangers and risks*, as well as *new type possibilities* when developing multiple progresses, which arise or appear under the conditions of change of modern society structures and its organization forms.

Global transformations, *which express changes typical for the modern society, its structure and organization*, may be perceived and assessed as the ones, which:

- determine the changes of *powers and function structures*, typical of modern countries, which reflect a general tendency, when *the role of a state* influencing and affecting the situation in various areas of social, economic, political development as well as science and technological progress, *changes in essence*. (The changes of the role of a state may be expressed in two ways: the first one is that a modern state gains *new powers* and takes up *new functions*; and the second—that, in the areas of traditional powers expression and implementation of traditional functions, the role of a state is more determined by its cooperation with various international and non-governmental organizations, with various social movements, various organizations, functioning in business and public sectors, and other subjects, most importantly—the subjects of international business, their networks and other formations);

- determine essential changes, typical of the activity and role of *formal and informal international organizations and other formations*, especially—for the activity and role of international inter-state organizations and international economical and business organizations: under contemporary conditions, namely international organizations and other formations of various subjects perform various functions and gain more and more powers to influence and affect a situation and development processes in separate countries or regions as well as internationally;
- influence essential changes in the modern management systems of the society development processes, including changes of *democracy conception*, and changes implementing *democracy values and principles* in a real management and self-government practice (besides, the changes of democracy and its values and principles naturally determine needs for change in various management system chains of the modern society development processes);
- determine creation and activity activation, variety increase and influence growth of various non-governmental organizations, movements and informal structures in the world, separate countries or regions: an appropriate tendency reflects manifestations of new society activeness forms as well as the increase of various interest group roles and significance;
- determine the fact, that in the future there is going to be *new type interaction* between various subjects of activity and management, which operate internationally (states, various their organizations, other international organizations, various international business subjects and their formations), as well as regionally (various institutions of public administration, business subjects, international and local organizations, other subjects): it must be noted, that *new type interaction* appears and may appear in various forms of *network*,
- determine the fact, that there is going to be new type interaction between an individual and various organizations locally, regionally, in countries or internationally, and such interaction is gaining a bigger role and is becoming more and more intensive: under contemporary conditions individuals are becoming significant subjects of the society development processes, who are actively acting the globalization environment.

The significance of global transformations, which express *the change of modern society structures and its organization forms*, is shown by objectively appearing needs to adequately react to the changes of *organization forms*, typical to the modern society, as well as changes in the *management of the society development processes and changes of the democracy and the conception of its value and principles as well as the results of such conception change*. It must be emphasized, that the significance of the above-mentioned global transformations is also shown by the objectively appearing needs *to ensure the consolidation of humanistic and democratic values* when globalization processes are becoming more and more intense, when the *mobility* of individuals, various social groups and layers, as well as organizations is increasing in various forms, and when new possibilities to develop multiple interaction among various activity and management subjects is increasing.

The global transformations, which express the *changes typical for the modern society, its structure and organization*, as well as the *changes of the potential of human resources and its structure*, could be defined as a *global context* of the changes of the potential of human resources and of the various organizational changes in all spheres and sectors of the contemporary society and its life.

Global transformations, which express *the changes of cultures, mentalities, value systems, social behavior stereotypes*, are very important because these transformations *proximately affect ideals, expectations, ideological attitudes, assessment criteria* as well as *lifestyle models and underlying development trends*, which are entrenched in the society and its life. It is obvious, that global transformations, which express *the changes of cultures, mentalities, value systems, social behavior stereotypes* are also important because these transformations particularly reflect the manifestations and tendencies for change of the *society's psychological state, morale, ethnic and esthetic attitudes, spirituality, innovations and creativity, inertness and conservatism, tolerance and adaptation to the environment abilities*.

Global transformations, which express *the changes of cultures, mentalities, value systems, social behavior stereotypes*, may be perceived and assessed as the ones, which:

- determine the *activation of spread processes* and *variety increase* of different cultures, mentalities, value systems, social behavior stereotypes, as well as their *interaction and convergence* tendencies: the expression of such tendencies reflects inevitable creation and development processes of qualitatively new cultures, mentalities, value systems, social behavior stereotypes, as well as their spread areas in separate continents, countries or regions, as well as internationally in general,
- determine the fact, that historically "*alien*" cultures intensively "*penetrate*" into *historically created traditional concentration spaces* of certain ethnic, confessional or other cultures, and that this "penetration" causes ambivalent consequences: they create preconditions for intensive connection of various cultures and creation of qualitatively new cultures, as well as they create preconditions for the expression of new conflicts, threats and dangers, which could be determined or encouraged by the increasing variety of cultures and too great inadequacy of different cultures,
- encourage the creation of preconditions for the expression of *multiple synergetic effects*, which may determine the *activation and development of innovations* which include all areas of life, as well as the appearance of *new risks, threats and dangers*,
- determine inevitable changes in those *systems of criteria and dimensions*, on the basis of which it may be possible to react to the natural *change of cultures, mentalities and other spaces*, including the ones, on the basis of which it may be possible to "*structuralize*" various *world's spaces* (especially—to identify the spread areas of various cultures, interest or influence spheres of various countries and their groups, various markets). The changes of criteria and dimension systems not only determines the changes in the cognition of the modern world and the establishment and identification areas of various "cause-effect" connections, but

also determine essential changes when creating, adapting and implementing means used by the society and meant for single-minded reaction to the change of cultures, mentalities, value systems and social behavior stereotypes.

The significance of global transformations, which express *the changes of cultures, mentalities, value systems, social behavior stereotypes*, is shown by the emphatic needs to *adequately react* to the changes of cultures, mentalities, value systems, social behavior stereotypes and their spread areas, to the *outcomes of changes, which include all the areas of the modern society life*, as well as to the fact, that these changes influence the change of the society *structures* and its *lifestyle models*. It must be noted, that the significance of these global transformations is also shown by the fact, that the change of cultures, mentalities, value systems, social behavior stereotypes highly influences society's tendencies to initiate and tolerate changes in various areas of its life (Melnikas, 2002).

Global transformations, which express *the changes* in various areas of *social, economic, political development, science and technological progress*, are extremely significant due to two reasons. Firstly, these transformations determine *long-term qualitative changes* and *long-term development tendencies*, which inevitably appear and will appear in all areas of the society, its life and development globally, as well as in separate countries or regions. Secondly, these transformations determine the *multi-channel influences* and *"cause-effect" connections*, which reflect *general interaction phenomena*, when changes in some areas of the society life and development *proximately influence* changes in other areas of the society life and development. *The general interaction phenomena* shows, that these global transformations reflect *multiple functional as well as correlation connections*, which show various subordinations among the changes in different areas of social, economical, political development, science and technological progress and the change tendencies.

The importance of global transformations, which express *changes* in various areas of *social, economic, political development, science and technological progress*, is also obvious because these transformations reflect the *assimilation* of processes and changes, which take place in *particular* areas of development, progress and society life, worldwide or in large global areas. The essence of such *assimilation* is that a situation in *particular* areas of the society life, development and progress in *different* countries or regions is becoming more and more assimilated, due to the appearing orientations to *identical standards, norms, etalons, ideals, expectations, activity models, or stereotypes*. It means that *general global changes*, which include *different* areas of social, economical, political development, science and technological progress, *increasingly influence* the situation in *certain development and progress areas* in separate countries or regions, as well as in *every* country or region *in general*.

It is possible to claim that namely these transformations reflect the *generalization of changes* in different areas of social, economical, political development, science and technological progress globally.

Global transformations, which express *changes* in various areas of *social, economic, political development, science and technological progress*, may be perceived and assessed as the ones which:

- determine the fact that the *influence* of the development, progress and change in *some* areas of the society's life on the development progress and change in *other* areas of the society's life *is increasing* worldwide and in separate countries or regions. Such *increase of many-sided, multiple and multi-channel influences* reflects the *significance increase of interaction, convergence and harmony* among *different* sectors of social, economic, political development, science and technological progress, and shows a *common tendency*, that changes in certain sectors determine the changes in others under the conditions of globalization,
- determine *trajectory, extent and rate inter-inadequacies* among the processes and changes in *different* areas of social, economic, political development, science and technological progress, when development, progress and change processes taking place in different areas are characterized by *more and more different and incompatible trajectories, extent and rate*. At the same time, ambivalent assumptions emerge—the assumptions that *qualitative sallies* should be implemented in certain areas of the development, progress and change, and the assumptions that *disproportions and conflicts* should emerge in certain areas of the development, progress and change, which may have various negative consequences on the society and its life,
- condition the *needs to comprehensively coordinate and harmonize* changes, which take place in different areas of social, economical, political development, science and technological progress. Despite the fact that global transformations are perceived as *an objectively appearing phenomenon*, it is still necessary to *react single-mindedly* to various manifestations of this phenomenon and strive to *rationally adapt to the objectively inevitable changes and effectively implement the prevention of undesirable effects* using *the means of coordination and harmonization*, including the cases when unacceptable and undesirable *inequality* appears in different areas on the development, progress and change.

Global transformations, which express changes in various areas of social, economic, political development, science and technological progress, reflect the possibilities to solve and eliminate problems, which arise in various areas with the help of the experience or new development, progress and change results cumulated in other areas. These global transformations reflect *common tendencies* significant for the modern society and its life, which show that:

- social development and progress are increasingly determined by economic and political changes as well as the process of science and technological progress,
- economic development and progress are increasingly influenced by the processes of science and technological progress, especially, the sallies in underlying areas of science and technological progress, as well as various changes and processes, which take place in political and social life,
- political development and progress are increasingly influenced by social and economic changes, as well as various factors of science and technological progress,
- the processes of science and technological progress are increasingly influenced by various factors and circumstance of social, economical and political development.

The above-mentioned tendency appears multiply and controversially—factors of the same origin may differently influence various processes of social, economic, political development, science and technological progress, and the effects of those influences may also be very different and differently assessed.

The significance of global transformations, which express *changes in various areas of social, economic, political development, science and technological progress*, is shown by objectively appearing needs to *adequately react*:

- to the *variety, inequality and outcome multiplicity* of the appropriate development, progress and change processes,
- to *new risks, dangers and threats*, which arise and appear owing to changes, as well as to the needs *harmoniously adapt* to the multiple and controversial development, progress and change processes, which appear in various areas,
- to the needs to *single-mindedly influence* and even *manage* the development, progress and change processes *within the limits of objectively existing and conspired possibilities*.

It must be emphasized, that the above-mentioned global transformations show the *modern society's powers to actively and single-mindedly* influence its life's conditions at the same time *partially programming* the trajectories of further development and progress.

In general, the global transformations, which express *changes in various areas of social, economic, political development, science and technological progress*, could be defined as an *important precondition* and as a *global context* of various social, economic, political, technological changes in all spheres and sectors of the contemporary society and its life, as well as in all countries and regions: this statement is especially important in the conditions of European integration and enlargement of the European Union. In conclusion, it may be noted, that global transformations, as a unit, are so much multiple and complicated, that even a detailed study of these transformations creates assumptions to perceive and assess various factors and circumstances, which are typical to transformations and their effects, only very superficially. What is more, the deeper approach to global transformations, their manifestations, variety, influence on the society's development and lifestyle changes allows adequately perceive the appearing problems and solve them single-mindedly and efficiently. The latter proposition is very important when perceiving the problems and topicalities of the *sustainable development* as well as when trying to implement modern *attitudes of the sustainable development* in real practice.

#### **4. Regularities of global transformations and their expression: challenges for the knowledge based society and knowledge economy creation and new topics of the further scientific research on intellectual economics**

Global transformations, their expression and influence on the modern society and its life are characterized by wide *variety* and significant *common regularities*.

Among *common regularities*, typical for global transformations, the following must be emphasized:

- regularities, which reflect universalism and unification processes under the conditions of global transformations;
- regularities of the increasing uncertainties and their expression;
- regularities of *unsynchronized development and the expression of resonance effects*;
- regularities, which express society's needs to *activate innovations, stimulate creativity, and strengthen adaptation and tolerance skills*.

The above-mentioned regularities are perceived as very important and significant under contemporary conditions.

Regularities, which reflect *universalism and unification processes under the conditions of global transformations*, express a typical tendency of the universal convergence. The essence of this tendency is that *identical* standards, norms, etalons, as well as expectations, activity and lifestyle models, behavior stereotypes, which reflect the newest achievements and the newest conception of quality and modernity *in all areas* of the society life, social, economical, political development, science and technological progress, spread, are assimilated, implemented and renewed on a world scale. This tendency reflects a *periodic phenomenon*, the essence of which is *continuously periodic situation assimilation* typical of *every specific* area of the society's life, development and progress *on a world scale*.

The above-mentioned phenomenon is characterized by *universalism and unification* processes. *Universalism* processes may be perceived as the ones, which reflect *universality* objectives of standards, norms, etalons, models and stereotypes, which spread, are assimilated, implemented globally. *Unification* processes may be perceived as the ones, which reflect the tendencies and needs to *combine and harmonize* the systems of standards, norms, etalons, models and stereotypes, which *periodically* develop in different areas of the development, progress and change.

It is obvious that *universalism and unification* processes may be assessed as the ones, which reflect important *challenges for the sustainable development*, because these processes *activate the sustainable development inside* various sectors and areas of the development, progress and change, as well as provoke various *disproportions* and development and change *inequalities* in separate countries or regions.

In general, purposeful effects on the processes of universalism and unification as well as the abilities to react to various manifestations of these processes adequately are assessed as a very important link of the instrumentation, which is intended for the *management of the sustainable development processes*.

Regularities of *the increasing uncertainties and their expression* reflect the factor that *more and more various uncertainties* are appearing under the conditions of global transformations, and the *expression* of these uncertainties is *much more various*. These regularities are very important when trying to perceive and solve *the problems of the sustainable development*, besides, more and more uncertainties are appearing under the conditions of global transformations, which are necessary to consider when *diagnosing, forecasting and planning* the processes of the sustainable development.

Regularities of *unsynchronized development and the expression of resonance effects* reflect two simultaneous tendencies, which are different as well as complementary:

- development, progress and change processes, which take place in different areas of the society's life, activity and development, as well as in different countries or regions, are characterized by multiple *unsynchronicities, unbalancing, and inequalities*: this tendency reflects the appearing possibilities that various development, progress and change processes may be characterized by *increasing disproportions*, which may provoke additional risks and threats;
- development, progress and change processes, which take place in different areas of the society's life, activity and development, as well as in different countries or regions, are characterized by the *congruence of space and time parameters* (this tendency also reflects the *resonance of different processes* and may be described as a tendency reflecting *resonance effects*). This tendency reflects the appearing new risks and threats, which are or may be caused by the *resonance of different processes and changes* as well as new development and progress possibilities, which may be based upon the *synchronization of different processes and changes*.

It is obvious that regularities of *unsynchronized development and the expression of resonance effects* are assessed as extremely important when solving the problems of the *sustainable development*:

- *unsynchronized development* reflects the assumptions for the sustainable development problems to appear, as well as the possibilities to purposefully *regulate pace and extent* of different development processes and changes, and at the same time adequately react to various disproportions and inequalities;
- the expression of resonance effects reflects *undesirable consequences of unharmonious or insufficiently sustainable development*, as well as the *possibilities* to purposefully *concentrate* various management effects, which are intended to react to the development, progress and change processes, which require correction.

It must be emphasized that the circumstances of regularities of *unsynchronized development and the expression of resonance effects* in all cases require exceptional attention when trying to adequately perceive, identify and solve the problems of the *sustainable development*.

Regularities, which express *the needs to activate innovations, stimulate creativity, and strengthen adaptation and tolerance skills*, generally reflect the main challenges, which arise under the conditions of global transformations. These regularities reflect general tendency, which shows, that there is an increasing significance for the needs, which are intended to:

- activate innovations and stimulate creativity by reacting to new challenges and new problems, including the problems of *the harmonious development*, under the conditions of global transformations;
- strengthen adaptation and tolerance skills, because, under the conditions of globalization, there is a strong need to *adapt* to new circumstances and *adapt* various systems to new requirements, as well as *tolerate* various changes by *reacting* to them *rationally*, and by regarding the attitudes of the *sustainable development*.

The above-mentioned regularities of global transformations are assessed as very important when trying to adequately perceive and solve the problems of the creation of knowledge based society and knowledge economy. Of course, regarding the complexity



and variety of global transformations, as a unit, it is possible to make an assumption, that other regularities may be highlighted apart from the ones mentioned above.

However, it is possible to claim that the reference to the perception, that the above-mentioned regularities are essential and the most important, allows *complexly* perceive and assess the influence of global transformations on the modern society and its life. In turn, the adequate perception of such influence allows solving the topical problems of the knowledge based society and knowledge economy creation single-mindedly.

Among *special regularities*, typical for knowledge based society and knowledge economy creation in the context of globalization, the regularities, which reflect *the globalization and internationalization circumstances, necessary for the creation and development of the knowledge based society and knowledge economy*, could be emphasized : these regularities show, that the creation and development processes of the knowledge based society and knowledge economy, as a unit, have very clearly expressed *internationalism* and may be assessed as a very important *part of globalization processes*. The following ones are considered as very important:

- regularity, which expresses the spread of the creation and development processes of the knowledge based society and knowledge economy in the extent of *global spaces*;
- regularity, which expresses possibilities to create and develop the *nuclei* of the knowledge based society and knowledge economy in various *spaces and environments globally*;
- regularity, which expresses *increasing mobility and free movement* of human resources, capital, information and other resources, which participate in the processes of creation and development of the knowledge based society and knowledge economy *globally*;
- regularity, which expresses the role increase of *multicultural and inter-cultural competencies* and information exchange, reacting to new conditions when creating and developing the knowledge based society and knowledge economy under globalization conditions;
- regularity, which reflects the needs to develop international cooperation when creating the knowledge based society and knowledge economy.

Regarding the fact, that the creation and development processes of the knowledge based society and knowledge economy, especially under the conditions of globalization and internationalization activation, have increasing variety, it is possible to claim, that the described regularities allow cognizing and assessing the appropriate phenomena *just partially*. It should also be emphasized, that namely the described regularities, as a unit, allow making a *complex picture* about the situation in the creation and development of the knowledge based society and knowledge economy, as well as about the perspective of changes.

It must be noted, that the described regularities reflect the complex problems of the social, political, economic, technological development, which inevitably appear under the creation and development conditions of the knowledge based society and knowledge economy, and allow highlighting and reasoning the *priorities* of these problems salvation.

## 5. Conclusions

The main priority of the deepening and improvement of contemporary intellectual economics is the solving of the problems of creation and further modernization of knowledge based society and knowledge economy, especially in the context of globalization processes. It means that the scientific research on the processes and problems of complexity of the global transformations and the knowledge based society and knowledge economy creation could be defined as an important *scientific research area*, especially as an important and significant *object of social science*.

The research on the processes and problems of complexity of the global transformations and the knowledge based society and knowledge economy creation could be defined as an important area of the *scientific research on intellectual economics*.

The research on the processes and problems of the knowledge based society and knowledge economy creation in the context of global transformations could be defined as especially important scientific research area in the conditions of the intensive European integration and enlargement of the European Union.

The processes of the creation of knowledge based society and knowledge economy in the context of globalization should be understood as *the undivided unity*. These processes are an important priority of the social, economic and technological changes and development processes, especially in the European Union. These processes should be perceived as relevant to *all* spheres of the meaning of life—social, economic and political life, culture, advancement of science and technologies, interaction with nature in general and environment in particular. These processes should be comprehended as the ones providing *social, cultural, political, economic, technological preconditions* for modernization of the society and refinement of its life in accordance with *the modern future oriented standards, norms and values*.

The processes of the creation of knowledge based society and knowledge economy in the context of globalization should be interpreted as *multi-dimensional and extremely complex and uninterrupted global process* which manifests itself in *cyclical changes and leaps towards higher quality standards, norms and values*. The idea of complexity of the global transformations and the knowledge based society creation should be implemented in *all* stages of scientific research, studies and practical activities, including the prioritizing various programmes on multi- and cross-disciplinary research and studies, as well as strategic solutions of the complex character in various stages.

The processes of the creation of knowledge based society and knowledge economy in the context of globalization could be interpreted and analyzed as an important *global transformation*. The global transformations in general, as well as the processes of the creation of knowledge based society and knowledge economy could be analyzed in the context of *the ideas of synergy effects*: in general, the global transformations and the processes of knowledge based society and knowledge economy creation may be attributed to the category of *global transformation and synergy effects oriented development processes*.

*Global transformation processes* are characterized by a *wide variety* and may be identified and classified according to various features. The following features may be

treated as the most important ones among the features, which should be taken into consideration when identifying and classifying *the processes of global transformations*:

- features that characterize *natural and climate conditions*, as well as their influence on various global changes and situation;
- features that characterize *human resources*, their potential, change of its structure, as well as global role of human resources;
- features that characterize the *society*, its development, structure, change dynamics, as well as features, which help to describe various *types and models* of the society itself and its organization, and global *spread and spread dynamics* of these types and models;
- features that characterize global variety and spread of *cultures, mentalities, value systems, models of lifestyle, and social behavior stereotypes*;
- features, which characterize the processes of social, political, economic development, as well as science and technological progress, the impact and consequences of these processes, which appear or may appear globally.

The impacts of global transformations on the modern society in general and on the *changes* in its life, development and progress are *multiple, complicated and even contradictory*. Several circumstances determine the *multiplicity and complication* of the impact of global transformations on the society and changes in its life. Firstly, the global transformations themselves are characterized by a *variety of typical features*, which inevitably conditions the multiplicity and complication of these transformations and their impact. Secondly, global transformations, as a unit, may be identified as composing *different geographically regional or sectoral systems*: the variety of different geographically regional or sectoral systems reflects the multiplicity and complication of the impact of global transformations on the society and changes in its life. Thirdly, *controversial tendencies*, when certain development, progress and change processes evoke *positively and negatively* assessed results, inevitably appear under the conditions of the variety, multiplicity and complication of the global transformations and their impact on the society and changes in its life. All in all, it is possible to claim, that global transformations, as a unit, are characterized by exceptional complication, variety and multiplicity, as well as great impacts on all changes, which take place in all areas of life, their content and trajectories.

Global transformations, their expression and influence on the modern society and its life are characterized by wide *variety* and significant *common regularities*. Among *common regularities*, typical of global transformations, the following must be emphasized:

- regularities, which reflect *universalism and unification processes* under the conditions of global transformations;
- regularities of *the increasing uncertainties and their expression*;
- regularities of *unsynchronized development and the expression of resonance effects*;
- regularities that express society's needs to *activate innovations, stimulate creativity, and strengthen adaptation and tolerance skills*.

The above-mentioned regularities are perceived as very important and significant under contemporary conditions, as well as represented the needs to create and develop

the knowledge based society and knowledge economy and to activate the processes of intensive changes in all areas of societal life and technological progress.

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## INTELEKTINĖ EKONOMIKA IR ŽINIOMIS GRINDŽIAMOS VISUOMENĖS BEI ŽINIŲ EKONOMIKOS KŪRIMAS: NAUJI IŠŠŪKIAI GLOBALIŲ TRANSFORMACIJŲ KONTEKSTE

Borissas MELNIKAS

**Santrauka.** Straipsnis yra teorinio pobūdžio, jame nagrinėjami aktualūs intelektinės ekonomikos teorijos klausimai, skirti žiniomis grindžiamos visuomenės bei žinių ekonomikos kūrimui globalizacijos sąlygomis. Žiniomis grindžiamos visuomenės bei žinių ekonomikos kūrimo globalizacijos sąlygomis procesai yra apibūdinami kaip itin svarbi ir reikšminga intelektinei ekonomikai skirtų mokslinių tyrimų sritis.

Straipsnyje analizuojamos žiniomis grindžiamos visuomenės bei žinių ekonomikos kūrimo ir globalizacijos procesų kompleksiško apraiškos, parodyta, kad žiniomis grindžiamos visuomenės bei žinių ekonomikos kūrimo procesai gali būti traktuojami kaip tam tikra specifinė globalizacijos procesų bei globalių transformacijų atmaina. Detaliai apibūdinamos ypatybės, būdingos žiniomis grindžiamos visuomenės bei žinių ekonomikos kūrimui globalizacijos sąlygomis. Pažymima, kad kompleksinė analizė, skirta žiniomis grindžiamos visuomenės bei žinių ekonomikos kūrimo procesų ir globalių transformacijų nagrinėjimui ir moksliniam pažinimui, sudaro prielaidas adekvačiai suvokti visuomenės raidai būdingų socialinių, ekonominių ir technologinių pokyčių prigimtį.

Straipsnyje detaliai apibūdinama šiuo metu pasireiškiančių globalių transformacijų įvairovė, atskleidžiami svarbiausieji globalių transformacijų dėsningumai, parodytos jų apraiškos, reikšmingos analizuojant įvairias žiniomis grindžiamos visuomenės bei žinių ekonomikos kūrimo aplinkybes. Pabrėžta, kad kompleksinė žiniomis grindžiamos visuomenės bei žinių ekonomikos kūrimo procesų ir globalių transformacijų analizė yra itin perspektyvi intelektinei ekonomikai skirtų mokslinių tyrimų kryptis, išryškinti šiai kryptčiai priskirtinų tolesnių mokslo darbų prioritetai.

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