

NETWORKING SOCIETY, NETWORK-BASED ECONOMY AND THE PROCESSES OF GLOBAL SOCIAL, ECONOMIC, AND TECHNOLOGICAL CHANGES

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Abstract. *Processes and problems of the creation of networking society and network-based economy are described in this theoretical article. Networking processes and the network-based new development tendencies in various sectors of economy and social life in the context of contemporary global changes are defined as an especially important field of the scientific research and studies. The main aspects of the networking and network-based development tendencies are analysed. The complexity and systematics of the networking processes and the networking society creation under conditions of globalisation and contemporary changes in various areas of social and economic life are analysed.*

The main attention is focused on the idea that *networking processes* and the *creation of networking society and network-based economy* could be perceived as one of the most important *priorities* of the modernisation of contemporary social and economic systems, as well as of social, economic, political development, science, and technological progress in general.

The creation of networking society and network-based economy is assessed as *the most important assumption and the main way* to solve most of the social, economic, technological, even security, defence and ecological 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 *networking society and network-based economy* express the *essential qualitative changes* in all areas of social, economic, political life, science, and technological progress, and interaction with nature. The processes of the creation of *networking society and network-based economy* deeply influence the content of globalisation and internationalisation processes and the effect on a situation in the modern world.

The processes of the creation of *networking society and network-based economy* must be analysed *in complexity*. This analysis should be orientated towards the systematically examined and assessed changes and development processes.

It is particularly important that the processes of the creation of *networking society and network-based economy* are taking place on a global scale and could be defined as the processes belonging to the category of *global processes and changes*: it also means that the *complex interaction* between the processes of *global changes* and the processes of the creation of *networking society and network-based economy* is a very important factor of the *positive development* in the societal life in the general context of globalisation.

Problem is that the *networking society and the network-based economy* creation processes and other processes of global changes are *usually analysed separately*: the factor of the *complex interaction* between

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different global processes and the processes of the creation of *networking society and network-based economy* is often ignored. It means, that a *complex analysis* of the processes of various types, as well as an evaluation of the factors of interaction between different processes could be defined as a perspective way to solve some actual theoretical and practical problems of the *development of contemporary economy* and of the creation of *networking society and network-based economy* in general, especially in the context of globalisation.

The *complex analysis* and the *multidimensional evaluation* of the *general processes of global changes* and of the *specific processes of networking society and the network-based economy creation* as a perspective theoretical approach in research on societal changes in the context of globalisation is defined and described in this theoretical article.

The *variety* and the *main phenomena and regularities* of the global changes are identified, their impact on real processes of *networking society and network-based economy creation* is characterised. The *main principles* of the *networking society and the network-based economy creation in the context of global changes* are formulated .

The *main idea* of the complex analysis and of the evaluation of the factors of interaction between *different processes of global changes* and the *processes of networking society and network-based economy creation* could be briefly described as follows: the complex analysis and evaluation of these factors includes two aspects – first, all these processes should be defined and analysed as *the global changes in general*, secondly, the processes of the creation of *networking society and networks based economy* should be identified as an specific and especially important priority of contemporary social, economic, organizational and technological changes in the global space. This idea is described in details in the article.

Keywords: globalisation, networking society, network-based economy, global changes, creation processes

Introduction

New challenges and social, economic, technological, as well as political and cultural development tendencies in contemporary world in the context of globalisation and global changes, especially the *networking society and network-based economy creation processes* should be defined as an important direction of the scientific research and studies.

The creation of the *networking society and network-based economy* is perceived as one of the most important *priorities* of the contemporary development and modernisation of economy, as well as of social, economic, political development, science and technological progress in general.

The creation of *networking society and network-based economy* is assessed as *the most important assumption* and *the main way* to solve most of the social, economic, technological, even security and defence problems worldwide as well as in various countries or regions.

The processes of the creation of *networking society and network-based economy* express the *essential qualitative changes* in all areas of economy and of social, economic, political life, science and technological progress, and interaction with nature. These processes deeply influence the content of *globalisation* processes and the effect on a situation in the modern world.

The processes of the creation of *networking society and the network-based economy* must be analysed *in complexity*. In general, these processes could be defined as the

processes belonging to the category of *global processes and changes*: it also means that the *complex interaction* between the *processes of the creation of networking society and the network-based economy* and between the *other processes of global changes* is a very important factor of the *positive development* in the societal life and in economy in the general context of globalisation.

There are different theories, theoretical approaches and theoretical models of *networking society and network-based economy creation* processes. The problem is that the *networking society and network-based economy creation* processes and the processes of *globalisation and global changes in general* are usually analysed separately: the factor of the *complex interaction* between *different processes of globalisation and global changes* and of the processes of *creation of networking society and network-based economy* is often ignored. It means, that a complex analysis of the processes of different 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 of the *development and modernisation of contemporary economy*, as well as of the *creation of networking society and network-based economy*, especially in the context of *globalisation and global changes*.

The main idea of the *complex analysis* and of the *evaluation of the factors of interaction* between *different processes of globalisation and global changes* and the *processes of networking society and network-based economy creation* is that all these processes, in general, could be defined and analysed as a *system of general global transformations*, and the *new challenges for creation of networking society and network-based economy in the context of globalisation* could be identified. This idea is described in detail in the article.

The object of this article is the *processes of global social, economic and technological changes*, especially – the *processes of the creation of networking society and network-based economy in the context of contemporary processes of globalisation and of internationalisation of social, economic and cultural development*; the main focus is put on the *interaction* between *various processes of global changes in general and of the specific processes of networking society and network-based economy creation in the context of globalisation*.

Tasks of the research:

- to explore the *new definitions of the processes of global changes, of the creation of networking society and network-based economy*, to systematise these processes and to characterise the *main regularities and challenges of the networking society and the network-based economy creation*,
- to describe the *networking society and network-based economy creation processes in the context of globalisation*, as well as to explore the *main challenges of societal development in the context of global changes*, including – in the context of *networking society and network-based economy creation processes*.

1. The networking society and network-based economy in the context of globalisation: the main definitions and theoretical background for the scientific research

Taking into account the challenges of globalisation and modernisation of contemporary economy and development of societal life in general, the emphasis on social, economic and technological development should be placed in the new ways of changes and development, with the priority given to *innovations and their spreading*, as well as to *creation and further development of the society and economy of new types*. The new ways of changes and development and the spread of *innovations* should be based on recent achievements in *synergetic*, which should be applied to the creation and use of the *new forms of organisation* in various areas of modern social and economic life.

A *theoretical basis* for the new ways of changes and development, with the priority given to *innovations and their spreading*, could be created based on the solution of the problems associated with *searching for synergetic effects, their identification and implementation*. In its turn, the solution of the problems associated with the *search for synergetic effects, their identification and implementation* can be based on modern *networks and networking* concepts.

It is widely known that the *networks and networking* concept may be perceived from various perspectives, which could allow us to outline the possibilities and prospects of various forms of cooperation between the business and public sectors as well as the interaction between these sectors in various networks. It is considered that the *networks* of business and public sectors include individuals, enterprises, institutions and other organisations and their groups, as well as various *structures* representing state and international organisations, whose activities may be performed in national and international spaces. Thus, it may be argued that the *effects of networking* on the interaction between business and public sectors, their convergence and integration, as well as internationalisation, have *various forms, potentialities and perspectives* and are *very important* for these processes. This, in turn, allows us to state that *networking* is particularly important for the analysis of interaction between business and public sectors and their convergence, as well as the changes in the interaction between various states and international businesses and, in general, the processes of their convergence, integration and internationalisation.

Networks may be considered to be an effective and highly promising *organisational form* under conditions of contemporary social, cultural and economic development, the advance of science and technology and, particularly, globalisation and internationalisation of social, cultural and economic development: it should be noted that *networks* could be defined as an especially effective and highly promising *form and type of formal*, as well as *informal organisations*.

Modern networks as an organisational form are strongly oriented to innovations. Thus, the creation and development of networks is closely associated with the concept of *searching for, identification and application of synergetic effects*, reflecting the orientation to *innovations*.

To consider a *network* as a *formal or informal* type of organisations and as a *specific organisational form*, its concept should be defined first. In a general case, a *network* is considered to be a *system of particular elements oriented to achieving a common goal of performing common functions*. This approach to the concept of *network* allows us to identify the *three main features* of a *network* as a *specific system*:

- a network is a system because its elements are connected, interrelated and may operate as a unit,
- a network is a system oriented to achieving a common goal or performing common functions, which operates as a single control and self-regulating unit,
- the elements forming a network retain their original properties and features as well as the specific character (the latter allows us to identify a network as a specific system, whose elements are independent to some extent in performing their functions).

When a *network* is created or operates as a system of *social* character or nature, it may have a *broader* definition, as follows: a *network* is an *association of subjects, having specific interests, and forming a system*. This system is characterised by the following features:

- the subjects of a system interact with each other,
- in a system, common interests are realised, common goals are pursued and general functions are performed,
- a system operates as an organisation with the control and self-regulated functions.

A *network* is usually defined as an *organisation* because it possesses the features of an *organisation*. An *organisation* is considered to be an *association* or a *system* of subjects, having *two main features*:

- the interaction between the subjects of a system manifests itself as direct interrelation and feedback and based on the respective infrastructure,
- in the structures of the special interests of any subject, common interests of the particular system's subjects become apparent.

A *network as an organisation* has some specific *features*, as follows:

- the subjects of a network demonstrate independence and autonomy as well as the capacity to retain their original features and characteristics,
- a network as a single whole functions based on the principle of self-regulation.

The considered approach to the concept of *networks*, operating within the systems of *social* nature or character, allows us to interpret a *network* as a particular *organisational*

form of various subject activities. It is also clear that the main advantage of each network is its *orientation to innovations*: a network as a *single whole and a system of various subjects* has a *potential for making use of various synergetic effects*. Therefore, in an effectively operating network the conditions for developing, spreading and applying innovations are created.

Taking into account the challenges of globalisation and social, cultural and economic internationalisation, it may be argued that the most successful and effective networks are those operating and spreading in the *international spaces* because in *this environment* more *favourable conditions* for spreading *innovations* may be created. For this reason, the problems of *networks* creation and expansion of the area of their application are considered to have the *priority* status in developing and enhancing *international management*.

It should be noted that the problems associated with the creation of *networks* as well as enhancing the performance and expansion of their application area are rather *complicated*. This is accounted for by the existence of *various types* of networks: networks may be identified and classified based on a number of various features, which means that various processes of networks creation and enhancing of their performance are very complicated. The study of these various networks and their characteristic features is the main precondition for successful development and use of effectively performing networks.

The main characteristics used to describe and classify various networks as well as to identify the problems associated with their creation, enhancement and expansion of application area are as follow:

- the characteristics describing the nature of network operation, its intended application and development,
- the characteristics describing the subjects involved in network operation, as well as its influence on social, economic, political development and the advance of science and technology,
- the characteristics describing the scope and expansion of network operation as well as its influence on social, economic, political development and the advance of science and technology.

The above *characteristics, describing the nature and purpose of network operation and development*, allow us to not only get better acquainted with various types of networks, but also to see the *possibilities of using innovations* in their operation and development.

Complex evaluation of possibilities and prospects of network creation and development requires the assessment of the conditions, allowing for the existence of a variety of networks that depend on the characteristics of the *subjects operating in these networks*.

The characteristics of the subjects operating in networks are relevant to the description of a variety of networks because they take into account two basic conditions:

- the variety of subjects operating in particular networks,
- the variety of interests and goals of the subjects operating in particular networks.

Under the present conditions of social, economic and political development, and the advance of science and technology, various types of networks, including *enterprises, institutions and other organisations, which operate in the private and public sectors*, as well as *mixed networks*, should be considered important. This statement is based on the fact that, in the context of the increasing globalisation and the development and modernisation of contemporary economy and culture, various *liberalisation* processes manifest themselves in all spheres of life. Therefore, further development is becoming more and more dependent on *innovations* and *private initiative*. For this reason, such processes as the expansion of *private sectors* and *promotion of cooperation between private and public sectors organisations*, are growing in importance. It can also be argued that the organisational networks operating in the *private sector* and various *mixed networks* may be considered very important from the perspectives of the promotion and spread of *innovations* in all spheres of life.

It is also necessary to take into consideration the existing *motives (reasons)* for the *integration of various organisations into networks and their operation and development in these networks*.

The characteristic features, determining the scope of the networks activities and development and their influence on social, economic, political, as well as scientific and technological development, are highly important because the variety of networks depends on:

- the size of networks, determining the number of organisations or other subjects in a particular network as well as the size of these organisations and the complexity of networks structure,
- the scope of networks activities and development described in terms of the amount of products produced by them and the variety of these products, as well as the amount of resources stored in and consumed by a network and its various partners,
- the scope of networks activities and development described in terms of geographical and time parameters,
- the effectiveness of networks activities and development as well as their impact on various social, economic, political and technological processes.

The above-described and other characteristic features, determining the scope of networks activities and development, as well as their impact on social, economic, political, scientific and technological advance, allow us to determine the *role of various networks and the prospects of their development* in the modern world.

Describing the *variety of networks* and *networks as innovation-oriented forms of organisation*, we should mention the *increasing significance of networks* for social, economic, political, scientific and technological advance under the existing conditions.

The diversity and multiformity of networks, as well as the possibilities and prospects of their development reveal the importance of establishing *priorities* in the processes associated with society modernisation and effective economic development.

The following priorities may be determined in the process of effective network development:

1. *The development of international networks aimed at effective solution of international and global social, economic, political, safety, environmental as well as scientific, technological development and other significant problems for international society and mankind.* This priority is relevant because it implies that network development aims to create the conditions for successful and effective solution of the problems faced by the international society and mankind, which are associated with the environment protection, the effective use of natural resources, political, cultural and economic development, safety and stability, as well as scientific and technological advance, crime prevention, etc. Moreover, this priority means that the described networks may be developed by *various subjects*, operating in *various business and public sectors*, while the networks themselves may be of *multidimensional and international type*;
2. *The development of networks at the international level aimed at increasing the processes of effective development and advancement in particular business and public sectors and other areas of activities, such as social, economic, political and cultural development and scientific and technological advance, etc.* This priority is relevant because it implies that network development aims to create the conditions for developing highly effective systems in the particular *sectors* or areas of activities. Each of these systems should have some *exceptional characteristics* (advantages) (e.g., the exceptional *quality, effectiveness* and *productivity* of activities and their results). It should also be recognised as an indisputable *leader* in the area of its activities. The creation and development of such systems should ensure that the efforts would be made to *solve* the existing (or potential) *problems* in the respective business or public sectors and other areas of activities and that network creation and development would *constantly encourage the advance* in various fields (moreover, this priority in network development may also be defined as describing *network development from the perspective of a particular sector*);
3. *The development of networks aimed at increasing the effectiveness of the development and advancement in the clearly defined (national and international) regional systems.* This priority is important because it shows that the creation and development of networks aim to ensure the conditions for highly effective *multisector regional systems* formation in particular regions. Each system should be oriented to the aim that

a *region* as an integral whole, in terms of social, economic, political, environmental, cultural and other aspects of development, should demonstrate a *particularly high quality of life*. The creation and development of *regional* networks should *constantly encourage and promote the advancement in all main spheres of life* (moreover, this priority in network development may be also perceived as describing *network development from the perspective of a region*);

4. *The development of multisector and interregional networks aimed at increasing the effectiveness of the development and advancement in various business sectors and groups of regions*. This priority is important because it expresses the intention to *develop various mixed (combined) networks* in various ways, which could have the potential for promoting the development of various activities in various regions and environments. In addition, this priority is particularly important for encouraging and promoting *innovations* because it shows the orientation to the potentials aimed at developing diverse activities by merging general systems (e.g., in the fields of science, education, creation and spread of technologies, production and provision of services in business sectors, various public services, policy making, etc.) *in various regions and differently defined areas* (this priority in network development may also be defined as describing the *development of multinet network systems and multidimensional networks*);
5. *The development of interpersonal communication networks aimed at encouraging and increasing the effectiveness of partnership and cooperation between individuals in various branches of creative activity*. This priority is important because it expresses the intention to encourage the *creative activity of people* in art, science, technologies, business, social life, legislation, politics, etc., as well as increasing its effectiveness by promoting *innovations in all spheres of life of modern society*. The significance of this priority is also shown by the fact that it emphasizes the *role of each individual in modernising the society and realising the interests and aims of the society as a whole as well as of a particular community, social group or an individual* (this priority may be perceived as *clearly oriented* by international business subjects to the implementation of *humanistic and democratic ideas*).

The priorities analysed may be considered to be *most important* in the development of *networks and their activities* under the existing conditions of social, economic, political, scientific and technological advancement, taking into account the challenges of globalisation. The specific characteristic of these priorities is associated with the fact that they express the orientation to and *promotion of innovations* in all spheres of the life of modern society.

In addition, the significant role of *network development in increasing cooperation of modern states with business subjects* should be emphasized. It is clear that the development of *interaction between national states and international business subjects*

with the help of *networking* should be considered as a priority issue. It should be emphasized that the above networking may have a particularly great *variety of forms*. Under the conditions of globalisation and internationalisation of political, social and economic development as well as scientific, technological and cultural advancement, the interaction between the national states and subjects of international business may be expanded, using various *models of networking*. Based on these models, the partnership between various institutions, enterprises and other organisations, representing various business and public sectors, government bodies and non-governmental organisations, as well as the sector of civil society and various sectors associated with the development of science and technologies, operating in local, regional, national and international spaces, could be developed. Moreover, the *creation and development of networks, realising the interaction between national states and international business subjects* in the process of implementation of the *ideas of project management*, should be considered a particularly important trend of networking development. Various networks used in the development and implementation of large international projects should be considered a particularly progressive and perspective organisational form capable of accepting modern challenges of globalisation and internationalisation.

The particularly important *cases* of the creation of *multidimensional international networks* and the development of their activities, which strongly influence the promotion of innovations in the European Union under the conditions of globalisation, are as follow:

- *production and servicing systems* of a *complex nature* that operate in the form of *international networks*; in such systems, the information technologies and means of telecommunication, automation and robotics may be widely used, and they should create and distribute *qualitatively new products*,
- *complex systems* in the form of *international networks* intended for *developing human resources* and used for accumulating the functions for satisfying the needs for creating the *knowledge-based society* and *developing education, science, studies and technologies in all spheres of life* and creating the conditions for *realising the principle of continuous (lifetime) learning*,
- the *systems* operating in the form of *international networks* that are oriented to *breakthroughs* and the *creation of the qualitatively new situations* in various spheres of life.

These *systems* operating in the form of *international networks* may actually be viewed as particularly important *models* that may be applied to further increase the potential of innovations.

In general, the growing importance of international networks and their role in creating modern society, culture and economy allows us to argue that *further growth of international networks* and the *development of their activities* ensure the inevitable formation of a *new type of society and international economy*. It follows that *rapid*

development of international networks and their activities in recent years may be interpreted as natural *transformation* of the existing society and economy into the *new type of society and economy*, which may be referred to as *international network-based society and economy*, or, simply, *networking society and network-based economy*.

The modern concepts of the *networking society and network-based economy* as well as the concepts of the *networking society and network-based economy creation processes* are very multiple (Castells, 2000–2004; Dang, Umemoto, 2009; David, Foray, 2002; Fischer, Gran, Hacker, Jakobi, Petzold, Pusch, Steinberg, 2010; Ein-Dor, Myers, Raman, 2004; Goeransson, Soederberg, 2005; Grace, Butler, 2005; Steinmueller, 2002; Melnikas, 1990–2014). Therefore, it is obvious, that the concepts of the *networking society and its creation* and of the *network-based economy creation* may be defined and described differently.

In order to substantiate the appropriate definitions and descriptions, it is necessary to regard the following:

- when describing a certain *society*, the underlying attention must be paid to highlighting of *the most important values, typical of the society itself*;
- when describing a certain *economy*, the underlying attention must be paid to highlighting of *the most important factors of the economy growth*.

Regarding the above-mentioned attitude, it is possible to claim that it is purposeful to describe the concepts of the *networking society and its creation* and of the *network-based economy and its creation* as follow:

- the *networking society* is the society which is characterised by the *values* of the *predominance of creativity and creative activity*, as well as the *values* that express the *networking and synergetic effects based on the networks*. In the *networking society*, the *underlying interests* express the objectives to *create, spread and use new products of art, technical, business and other creation*, as well as to *use and create various networks, to initiate, generate and implement multiple creative ideas and innovations* in all areas of life.
- the *network-based economy* is the economy, for which the *underlying growth factor* is the *potential intended for the creation of various networks, for the generation, spread and use of new knowledge, as well as the activation of creativity*. The *raising and possession of the abilities to create and use various networks, to create, spread and use new knowledge, ideas and innovations* in all areas of life, as well as the *incessant rise of the economic efficiency with the acceleration and activation means of the science and technological progress* are the *underlying conditions* for economic growth and modernisation in the *network-based economy*.

The provided descriptions of the concepts reflect the *main orientations of values that express the objectives of creativity, creation activation and new knowledge and*

products generation, typical for the *networking society*, as well as the *main features* that characterise the significance of the *creation and use of the networks*, of the *new products and knowledge generation*, *innovation and science and the technological progress*, typical for the *network-based economy*.

In order to describe the society and economy reasonably, it is necessary to regard the fact that there are *internal contradictions* that appear in every society and in every economy system, and that operate the same as the *propulsion stimulating the progress of the society and economy*, as well as the *cause*, which determines certain *destructive processes* that can “destroy” or destabilise both the society and the economy. The highlighting of the *underlying values* that are typical of the *networking society* and that express the domination of creative activity, generation, spread and use of new products and knowledge, allows realising that *the essential internal contradiction* of the *networking society* is the *contradiction* among the society members, groups, layers and variously identified subjects (Melnikas, 2013, 2014). The internal contradictions, typical for the *networking society*, influence the processes of *network-based economy* creation and development.

Based on the presented statements, a *general conclusion* may be made that the development, modernisation and transformation of the traditional societal and economic system *into the networking society and network-based economy* is considered to be a significant factor of *increasing the potential* of the creation and spread of *innovations*. It follows that to achieve this, the *creation of international networks and the increase of their efficiency* should be encouraged: it is clear that new possibilities of purposefully increasing and effectively using the potential for the creation of innovations may be found by using international networks.

2. The networking society and network-based economy creation processes in the context of global social, economic and technological changes: regularities and challenges

In order to understand and react to the new phenomena and circumstances, typical for the contemporary conditions of social, economic, political development and progress of science and technologies, it is necessary to see into the 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. Besides, the importance and significance of the problems of the complexity of development processes and changes are indicated by the fact that the understanding and salvation of these problems is one of the main priorities implemented in the contemporary practice of scientific research.

The complexity of the global social, economic and technological changes, including *the networking society and network-based economy creation processes* could be defined

as an especially important case. Modern attitudes to the *complexity of the global social, economic and technological changes and the networking society and network-based economy creation processes*, to the *concept of complexity* of these processes, as well as to the *understanding and salvation of the problems of networking society and network-based economy creation processes in the context of globalisation* can be characterised by extremely wide *variety*. Such variety determines the fact that the phenomena, problems and topicalities can be analysed by:

- including *spaces of different extent* (various regions, countries or their groups, the world), as well as including *different systems* (various sectors of economy, social activities and culture, various organisations, their groups, other systems);
- involving *different combinations of processes, phenomena, factors and circumstances* of social, economic, political development, and progress of science and technologies into the unit of developmental processes;
- giving preference to *different social, economic, ecological, technological, political as well as other manifestations, consequences or circumstances* of the *networking society and network-based economy creation processes* in the context of globalisation,
- regarding the *management, administration and governance features* of various processes of development and progress as well as the *multiplicity of different subjects and their interests* that take place in management, administration and governance processes.

The research on complexity of the *global changes in general* and the *networking society and network-based economy 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 that reflect various areas of science integrated in them. An important aspect of the research on complexity of the *global changes in general* and the *networking society and network-based economy creation processes* is a *regional* one, since various social, economic, technological, and 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.

The problems of *networking society and network-based economy creation*, including in the context of globalisation, should be analysed through various aspects: the variety of these aspects is shown in a number of scientific works and publications (Castells, 2000–2004; Currie, 2000; Dang, Umemoto, 2009; David, Foray, 2002; Dicken, 1998; Ein-Dor, Myers, Raman, 2004; Farnsworth, 2005; Goeransson, Soederberg, 2005; Garrett, Mitchell, 2001; Grace, Butler, 2005; Hunt, 2000; Melnikas, 2011, 2013, 2014; Melnikas, Reichelt, 2004; Munasinghe, Sunkel, de Miguel, 2001; Olsen, Osmundsen, 2003; Sangmon, 2002; Steinmueller, 2002).

Traditional attitudes to the *networking society and network-based economy* creation emphasize the *technological and organisational priorities*. At the same time, it can be seen that most of the scientific works on *networking society and network-based economy* creation do not pay sufficient attention to the impact of the *networking society and network-based economy* creation processes on the development processes in the global space as well as in the various sectors of societal life. On the other side, most of the scientific works on *networking society and network-based economy* creation processes are not directly oriented to the solving of *actual problems* of economic, social, political, technological, and ecological *development*, especially – economic, social, political, technological, ecological sustainability and sustainable development in general (Castells, 2000–2004; Friedman, 2006, 2009; Melnikas, 2011, 2013, 2014).

In general, the contemporary practice of scientific research on problems of *networking society and network-based economy* creation is characterised by the prevalence of the *specific studies* and research works that are oriented to a *separate research* on the various specific topics of *networking society and network-based economy* creation problems and processes: various aspects of the *complexity* of the processes of the creation of *networking society and network-based economy* in the context of globalisation and global changes have not been investigated.

Despite the fact that traditional attitudes towards the *networking society and network-based economy* creation in the context of globalisation and global changes are characterised by a wide variety, extensive coverage of processes and problems and considerable possibilities of practical application, it is still possible to claim that nowadays there appear many new circumstances, conditions and phenomena, the impact and role of which *insufficiently* reflect in most of the traditional attitudes. For this reason, traditional concepts of the processes and problems of the creation of *networking society and network-based economy* become more and more *inadequate* to the modern needs and challenges and require essential supplements and specifications.

It must be noted, that modern attitudes to the creation of *networking society and network-based economy* creation should deeper reflect the role and influence of *new type transformation processes* that are taking place in the world now. (Melnikas, 2011, 2013). The most important role and influence are of those transformations that reflect *the global spread of values and ideas of the networking society and network-based economy creation and of the sustainability of new knowledge creation processes*: namely, the creation of *networking society and network-based economy* and the spread of its values and ideas, as well as the spread of the ideas and values of sustainability of new knowledge creation processes in the global environment condition can activate and stimulate the new transformations in the modern society and its life, as well as help to understand the necessity to react to the needs of the creation of *networking society and network-based economy* and solve new problems in a new way (Melnikas, 2011, 2013).

It is possible to claim that the essential *priority* of the actualisation of the traditional concepts of *networking society and network-based economy* creation and development processes is that the modern concept should be oriented to the complexity and sustainability of social, economic, technological, and ecological development processes and must reflect both *the global social, economic, technological and other processes and changes in general* and those *specific global changes* that reflect *the creation of networking society and network-based economy and the spread of values and ideas of the sustainability of new knowledge creation processes*.

When actualising the concepts of the *networking society and network-based economy* creation and considering the circumstances of the global changes, it is purposeful to refer to certain *theoretical attitudes* that could be used when *analysing various phenomena* of the *networking society and network-based economy* creation processes. The idea of *multidimensional evaluation* of the processes of global changes as well as processes of *networking society and network-based economy* creation, and the so-called “*power*” *concept* should be distinguished among those theoretical attitudes: their ideas and application possibilities are revealed in various studies (Melnikas, 2011, 2013, 2014).

The processes of the creation of *networking society and network-based economy* should be analysed and studied *in the context of globalisation and global social, economic, technological and other changes*: the situation in the contemporary world is more and more conditioned by multiple globalisation processes that appear in all areas of political, social, economic life, and in all sectors of economy, social activities, culture as well as of science and technological progress. Globalisation processes proximately influence society’s lifestyle and the quality of life, as well as the *changes* that take place in all areas of life (Ravenhil, 2008; Friedman, 2006, 2009; Appiah, 2007; Castells, 2000–2004; Chossudovsky, 2003; Melnikas, 2002). Besides, the perception and assessment of the *meaning of globalisation processes* regarding the *content and singleness of changes* in the world are considered a *very important assumption* to scientifically cognise and adequately analyse the *nature* of globalisation itself: it is obvious that deep and complex cognition and analysis of globalisation processes are possible only in those cases, when globalisation processes are treated as changes that *take place in a global extent*, and as *global environment of such changes*.

Global social, economic, technological and other changes are characterised by a *wide variety* and may be identified and classified according to various features (Melnikas, 2011, 2013). The following features may be treated as the most important ones among the features, that should be taken into consideration when identifying and classifying *the processes of global changes*: features that characterise *natural and climate conditions*, that characterise *human resources*, their potential and structure; features that characterise the *society*, its development, structure, change dynamics, as well as features that help to describe various *types and models* of the society itself and its organisation; features

that characterise the variety and spread of *cultures, mentalities, value systems, models of lifestyle, and social behaviour stereotypes*; features that characterise the processes of social, political, and economic development, as well as science and technological progress, the impact and consequences of these processes that appear or may appear globally. All these features, as a unit, as well as their various combinations allow to universally and complexly describe the processes of global changes and their variety. (Melnikas, 2011, 2013).

The variety of global social, economic and technological changes is also shown by the fact these global changes may be identified, assessed and analysed by *two* different approaches: *geographically regional* approach, when global changes, their expression or their impact on the society and its life are assessed and analysed according to a country, region, continent or other *geographically or regionally identified* system; sectoral approach, when global changes, their expression or their impact on the society and its life are assessed and analysed by distinguishing certain *sectors of social, economic and other activities*. The variety of global changes shows that these changes, *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 changes (of course, including various processes of social, economic, technological development, as well as creation and further modernisation of networking society and network-based economy) on the society, its development, its social and economic life in general.

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

Several circumstances determine the *multiplicity and complication* of the impact of global social, economic and technological changes on the society and its life. Firstly, the global changes themselves are characterised by a *variety of typical features* that inevitably condition the multiplicity and complication of these changes and their impact. Secondly, global changes, as a unit, may be identified as composing *different geographical, regional or sectoral systems*: the variety of different geographical, regional or sectoral systems reflects the multiplicity and complication of the impact of global changes on the society and 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 changes and their impact on the society and its life.

All in all, it is possible to claim that global social, economic and technological changes, as a unit, are characterised by exceptional complication, variety and multiplicity, as well as great impacts on all the development processes that take place in all areas of life, their content and trajectories. These circumstances reveal the importance and significance of

global changes, including the processes of the networking society and network-based economy creation.

In general, the global social, economic and technological changes, as well as the processes of the networking society and network-based economy creation, could be defined as an *important precondition* and as a *global context* of various social, economic, political, technological and other situations and development processes in all spheres and sectors of the contemporary society and its life, as well as in all countries and regions (Foltean, Feder, 2009; Armstrong, 2006; Zeitlin, 2008; Wendt, 2005; Melnikas, Reichelt, 2004) .

It may be noted that global social, economic and technological changes, as well as the processes of the networking society and network-based economy creation, as a unit, are so multiple and complicated: the deeper approach to global changes, their manifestations, variety, influence on the society's development and lifestyle changes allows to 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 (Melnikas, 2013).

Global social, economic and technological changes, their expression and influence on the modern society and its life are characterised by a wide *variety* and significant *common regularities* (Melnikas, 2013).

Among the *common regularities*, typical of global social, economic and technological changes, the following must be emphasized:

- regularities that reflect *universalisation and unification processes* under the conditions of global changes,
- regularities of the increasing *uncertainties* and their expression,
- regularities of *unsynchronised 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. However, it is possible to claim that the reference to the perception that the above-mentioned regularities are essential and the most important, allows to *complexly* perceive and assess the influence of the global social, economic and technological changes on the modern society and its life.

The networking society and network-based economy creation could be defined as a *priority in the system of global processes and changes*. In this case, the *phenomena* of the *networking society and network-based economy creation processes* should be analysed *in the context of processes of global changes*.

For the sake of the scientific cognition and purposeful creation and modernisation of the *networking society and network-based economy*, especially under the conditions

of *global social, economic and technological changes*, it is necessary to regard the *essential principles* that reflect *qualitative changes* in the society in general as well as in the *economic life* of the society (Melnikas, 2002, 2011, 2013, 2014) .

It must be noted that the described regularities and aspects reflect the complex problems of the social, political, economic, technological development that inevitably appear under the creation and development conditions of the *networking society and network-based economy in the context of globalisation*, and allow to highlight and reason the *priorities* of the salvation of these problems.

Conclusions

1. The complexity of different processes of the global social, economic and technological changes and the processes of the networking society and network-based economy creation could be defined as an important scientific research area, and especially – as an important and significant object of economics and social science in general;
2. The research on the processes and problems of the *networking society and network-based economy creation in the context of global social, economic and technological changes* could be defined as an especially important scientific research area under the contemporary conditions of globalisation. The processes of the creation of *networking society and network-based economy in the context of globalisation and global changes* should be understood as *the undivided unit*. These processes are *an important priority in the system of contemporary global changes in general*. The processes of the creation of *networking society and network-based economy* should be perceived as relevant to *all* spheres of life – meaning social, economic and political life, culture, advancement of science and technologies, interaction with nature and environment in general. These processes should be comprehended as the ones providing *social, cultural, political, economic, technological preconditions* for modernisation of the society and refinement of its life in accordance with *the modern future oriented standards, norms and values*.
3. The processes of the creation of *networking society and network-based economy in the context of globalisation* should be interpreted as a *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 the *complexity of different processes of the global social, economic and technological changes and the networking society and network-based economy creation* should be implemented in *all* stages of scientific research, studies and practical activities, including the prioritising various programmes on multi- and cross-disciplinary research and studies, as well as strategic solutions of the complex character. The processes of the creation and further modernisation of *networking society and network-based economy* could be defined as *very complicated processes, oriented to the formation of the new quality society and qualitatively new lifestyle*.

4. The processes of the creation of *networking society and network-based economy in the context of globalisation* could be interpreted and analysed as *specific and very important global changes*. The *global social, economic and technological changes in general*, as well as the processes of the *creation of networking society and network-based economy* could be analysed in the context of *the ideas of synergy effects: the global social, economic and technological changes and the processes of networking society and network-based economy creation* may be attributed to the category of *global changes that are oriented to the synergy effects based development*.
5. The impacts of *global social, economic and technological changes* on the modern society in general and on its life, development and progress are *multiple, complicated and even contradictory*. Several circumstances determine the *multiplicity and complication* of the impact of these *global social, economic and technological changes* on the society and its life. Firstly, these global changes themselves are characterised by a *variety of typical features*. Secondly, *global social, economic and technological changes*, as a unit, may be identified as composing *different geographical, regional or sectoral systems*: the variety of different geographical, regional or sectoral systems reflects the multiplicity and complication of the impact of global changes on the society and 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 changes and their impact on the society and its life. All in all, it is possible to claim that *global social, economic and technological changes*, as a unit, are characterised by exceptional complication, variety and multiplicity, as well as great impacts on all changes that take place in all areas of life, their content and trajectories.
6. *Global social, economic and technological changes*, their expression and influence on the modern society and its life are characterised by a wide *variety* and significant *common regularities*. These regularities are perceived as very important and significant under contemporary conditions and represent the need to create and develop *the networking society and network-based economy* and to activate the processes of intensive changes in all areas of societal life and technological progress.
7. The research on the problems and processes of the *creation of networking society and network-based economy* is *multi- and interdisciplinary* by nature, thus, they must inevitably have attitudes to social and economic development, progress in technologies, environmental protection and changes in the modern society and its life. An important aspect of the research on creation of *networking society and network-based economy* is the *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.

These conclusions may be of particular importance for further investigation of the problems associated with the ways of increasing the effectiveness of social, economic and cultural development under contemporary conditions of globalisation, global changes and creation of networking society and network-based economy.

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