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INFORMATION ECONOMY AS A NEW ECONOMIC SYSTEM OF THE DEVELOPMENT OF SOCIETY

GOSPODARKA INFORMACYJNA JAKO NOWY SYSTEM GOSPODARCZY ROZWOJU SPOŁECZNEGO

Streszczenie. W artykule przedstawiono gospodarkę informacyjną jako nowy system gospodarczy, którego głównymi produktami są informacja i wiedza. Udowodniono, że komponentem centralnym systemu gospodarczego jest praca z informacją i użycie systemów informacyjnych w procesie zarządzania. Autor tego artykułu uzasadnia potrzebę poszukiwania nowych podejść do rozwiązywania problemów rozwoju struktur instytucjonalnych gospodarki informacyjnej. Jednocześnie nowy system gospodarczy rozwoju społecznego jest w stanie transformować nie tylko politykę gospodarczą poszczególnych krajów, ale także zmniejszyć wartość podstawowych narzędzi stereotypowej polityki gospodarczej w ogóle.

Annotation. The article deals with the information economy as a new economic system wherein information and knowledge are the main products. It is proved that a central component of an economic system is work with information and use of information systems in the process of management. The author substantiates the requirement for the search of new approaches to the solution of problems of development of institutional structures of information economy. At the same time a new economic system of the development of society is able to transform not only economic policy of separate countries but also lessen the value of underlying instruments of stereotyped economic policy on the whole.

Background. Global growth of information and telecommunication technologies, on the one hand, and also the necessity

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of development of scientific knowledge in the area of theory, methodology and practice of informative approach of study of information economy and society, on the other hand, determines topicality of consideration of the process of formation of information economy. Information turns into a strategic resource and factor of acceleration of scientific, technical and technological development and becomes a part of the real economy. It presupposes the conceptual comprehension of the process of establishment of an informative and technological method of production and related to it forming of an information paradigm in a modern economic science.

Analysis of recent publications. The evolutionary process of the establishment of information society is represented in researches of P. Drucker, who used a notion “information revolutions”. He worked out the theory of the stages of development, which allows deeper understanding of the logic of establishment of information economy.

The term “information economy” was first used in 1976 in works of Mark Porat, an employee of the Stanford Centre and designated by him as a cluster of industries, engaged in the production of modern databases and facilities which provide their application and functioning. He is given the credit for introducing a distinction between the primary and secondary information sector of economy. A primary sector, according to his opinion, can be estimated quantitatively, while everything is much more difficult with the secondary one. Porat refers to it information activity inside companies and government institutions and unites these two sectors, thereby eliminating the uninformative elements of economy.

In A.M. Baranov’s opinion the process of formation of information economy is a difficult complex phenomenon related to the changes in the system of productive forces and public relations. On the one hand, in the sphere of information

technologies a positive effect of their use has slightly begun to come down, on the other hand, in the sphere of innovative researches the intellectual resources of the development of society maintain leading positions. Due to these contradictory tendencies and the search of the most prospective variants of the further development of the state the researches in the area of information economy are becoming currently important.

The Revolution in the development of information technologies allowed to talk about a global network, which materialized the globalization of economy. New information technologies, in fact, are not simply becoming the instruments of application, but also the processes of development. The system-oriented analysis of the information economy with due regard to the forming informative paradigm of the economic theory requires additional consideration.

In spite of all the variety of specific features of the economy of information society, which are distinguished by researchers, the latter agree in opinion, that humanity has entered the new stage of the development of civilization, when information and knowledge play a determinative role in all spheres of human activity. However in most works, written by both foreign authors and those of our country, the basic attention is paid only to one of the aspects of this many-sided problem – to the development of information and communication infrastructure of the economy and the market of scientific and technical information, while the basis of producing of an intellectual capital – sociosphere and its anthropogenic features are not given quite extensive coverage.

A considerable contribution to the research of the problems of the establishment of an information society was made by one of the most authoritative social thinkers and researchers of the modern world

Manuel Castells¹. A scientist creates his conceptual approach to the concept and essence of information society. He introduces his own term and talks not about “information economy”, but about “informational economy”, moreover in tow with a global economy which he interprets in a new way. To his mind, this is an economy which is “able to work as a single system real-time and world-wide”.

The purpose of the article. The highest form of the manifestation of data and information is knowledge – systematized, interpreted, well-organized information got up according to certain criteria and with due regard to the ways of its best employment for the achievement of concrete aims. However the creation of knowledge is impracticable without intellectual modelling, and the existence of knowledge is impossible beyond the existence of a man. As meta-information is not enough investigated, its characteristics is being specified. It is the totality of information about data, information or knowledge, which arises as a result of their detailed analysis.

The main material. The technological progress and innovations are long-term motive forces of the economic growth. In the conditions of global economy of knowledge and the development of innovative activity in a technological sphere, it’s important for the developing countries to lay sound foundation for forming of their potential in the cause of acquisition and generation of knowledge and technologies to be able to use the possibilities of economic globalization, and at the same time to solve arising problems.

¹ Castells, Manuel (1996, second edition, 2000). *The Rise of the Network Society, The Information Age: Economy, Society and Culture*, vol. I. Cambridge, MA; Oxford, UK: Blackwell. [in English].

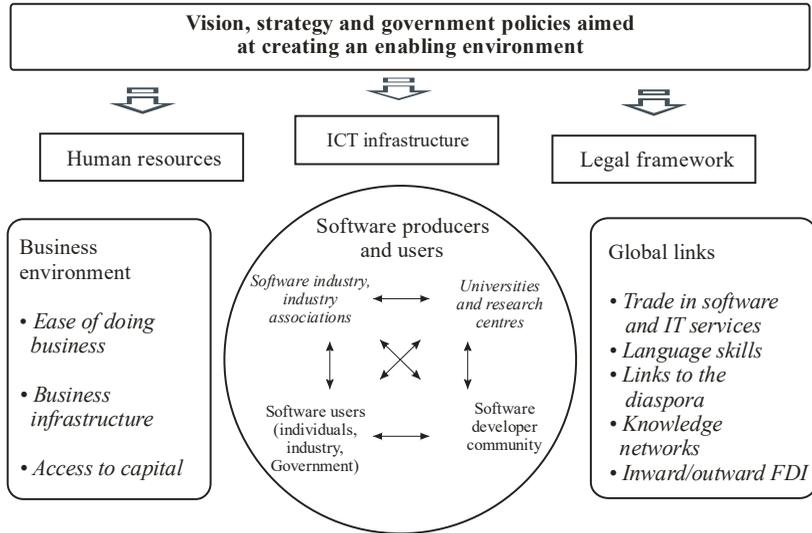


Figure. 1. A national software system¹

In the “Information Economy Report 2012” the conception of a national software system (fig. 1) is presented as a basis of analysis. It is underlined there, that actions and interactions of national software producers and users are greatly influenced by the quality and price affordability of the infrastructure of the information and communication technology, access to the corresponding human resources and capital, legal framework and infrastructure, which is necessary for business and also connections with the software networks all over the world. On the whole the competitiveness of the system depends on the national conception, the strategy and policy of the government which must assist the growth of the potential in the sphere of software and a software system all together.

¹ Information Economy Report 2012 - The Software Industry and Developing Countries (UNCTAD/IER/2012), http://unctad.org/en/PublicationsLibrary/ier2012_en.pdf (access: 28.11.2012). [in English].

Governments in this system play a key role, being the large users of software (in particular, due to the technologies of electronic national administration and government procurement), and that's why they greatly influence the factors, providing existence of this system.

As we pass on to the information economy the popularity of information processing systems and company management is intensively growing. The increase of fitting of companies with hardware and software of information technologies, which demand support, made companies search ways of solution of a problem of increasing expenses. The use of cloud technologies considerably facilitates the work in those cases, when the potential consumers of the application solution are not incorporated into a local network, possess diverse equipment and aren't disposed to follow any obligatory recommendations concerning hardware and software configuration in the sphere of economy.

In this context "Information Economy Report 2013" contains the objective analysis of possible consequences of the evolution of cloud economy for developing countries.

According to the definition, given in April, 2013 by International Telecommunication Union (ITU) and International Organization for Standardization (ISO), cloud computing is a paradigm for enabling access to a scalable and elastic pool of shareable physical or virtual resources with on-demand self-service provisioning and administration (fig. 2).

Cloud computing change the structure and principles of information technologies affording ground for opening of new types of business and revision of the existent approaches to the management of companies, namely:

- cloud computing gives an opportunity of integration of demand from the large number of users in the general pool of the dynamically distributed resources;

- the scale of the infrastructure of the providers of cloud computing substantially exceeds the scales of the largest non-cloud data-processing centres (DPCs);
- cloud computing gives an opportunity of monetization of corporate income, while traditional DPCs focus on consolidation and concentration.

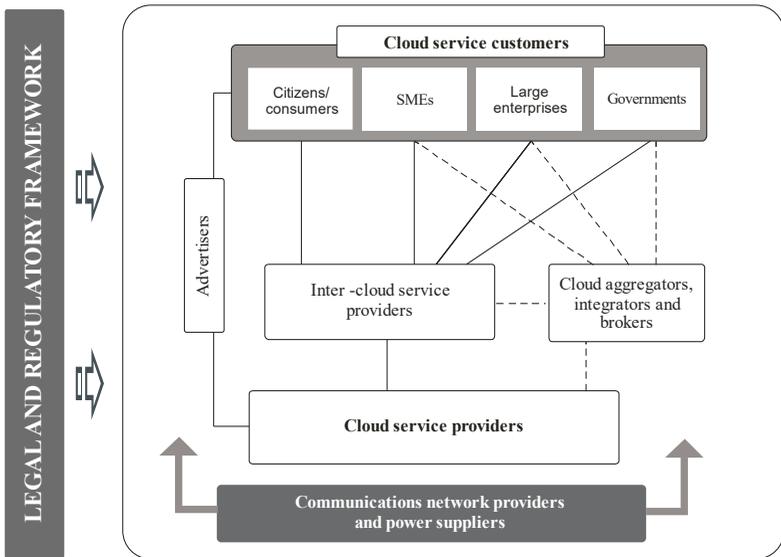


Figure. 2. Market relationships in the cloud economy²

So, for example, due to the large-scale reorientation to cloud technologies and growth of the income from technical support, proceeds of SAP from paid cloud services in the fourth quarter of 2014 increased by 72% as compared to the previous year and came up to €360 mln, according to the report published by SAP.

² Information Economy Report 2013 - The Cloud Economy and Developing Countries (UNCTAD/IER/2013), http://unctad.org/en/PublicationsLibrary/ier2013_en.pdf (access: 03.12.2013). [in English].

It is much more than the consolidated prognosis of analysts, who predicted an income of €317 mln. Previously SAP and other suppliers of corporate programs got large sums just after entering into a contract, and now the money comes from the consumers of cloud services in small portions and this process takes a long time. It changes the business model of software companies, makes them rearrange the work of sales departments and technical support, and also invest in new DPCs.

The penetration of new technologies in the informative market happens due to its technical constituent and directly influences the information constituent of the market, the part of which is management information systems (MIS). It should be noted that among the tendencies, which we've distinguished the technology of hybrid cloud computing is universally called-for practically for all types of MIS, and basic efforts of most companies will be directed exactly to its application.

The process of globalization generated the new phenomenon, when a global technological leader, which possesses a key technology, in the process of innovative activity and by means of large-scale investments accumulates technologies similar to the basic one or other, substantially extending its principal properties. A synergetic effect from the application of this activity results in the permanent instantaneous "switching" of a leader to the more advanced overriding technology. Moreover the permanent transformation of industry standards of this market by the technological leaders with the purpose to change it and get greater benefits takes place.

Conclusions. In the conditions of information economy companies more and more widely use service approach to the organization of provision of information services, both for internal and external customers. As computer networks develop they become the real informational and infrastructural basis of business.

As a result, the convergence of business with network technologies takes place. At the same time distributed and loosely-coupled systems wherein direct connections are replaced by interactive services come up to take place of centralized systems.

The conception of information economy includes fundamental definition of information society. It's defined as a system of connections and relations between individuals, which appear in the process of interchange of information concerning social and economic activity. Information economy is simultaneously defined as a system of public relations, wherein the information is a basic productive resource.

Substituting of expensive private legacy systems by inexpensive open networks helps companies to simplify the process of search of the most advantageous delivery contracts, of creation of systems of virtual production and forming of competitive chainlet of deliveries. When the focus of attention of business is shifted from effectiveness to efficiency, service becomes a necessary intermediate link, whereon the responsibility for satisfaction of functional necessities and effective resource, investment and innovation management is rested.

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