

THE ROLE OF THE INFORMATIONAL AND INTELLECTUAL RESOURCES IN THE
PRODUCTION PROCESS OF GOODS AND SERVICES IN THE KNOWLEDGE
SOCIETY

Annotation

The directions of the globalization processes are defined. The groups of the intellectual resources of the subjects of economic entities are formulated. The role of the informational and intellectual resources in the processes of production of goods and services in the knowledge society is defined.

Keywords: globalization, intellectual capital, economic environment, mechanism, resource formation.

Анотація

Визначено напрями глобалізаційних процесів. Сформульовано групи інтелектуальних ресурсів суб'єктів господарювання. Визначено роль інформаційних та інтелектуальних ресурсів у процесах виробництва товарів та послуг у суспільстві знань.

Ключові слова: глобалізація, інтелектуальний капітал, економічне середовище, механізм, ресурс.

Аннотация

Определены направления глобализационных процессов. Сформулированы группы интеллектуальных ресурсов субъектов хозяйствования. Определена роль информационных и интеллектуальных ресурсов в процессах производства товаров и услуг в обществе знаний.

Ключевые слова: глобализация, интеллектуальный капитал, экономическая среда, механизм, ресурс.

Introduction

The problem of intellectual resources is considered by the different areas of science. The existing theories tend to examine the separate types of intellectual resources: scientific and technical progress, human capital, social capital, intellectual capital, information, knowledge, non-material resources. The specialists in the field of strategic management distinguish as intellectual resources companies and their competence or ability (for instance, the ability for conducting research and the development or production of low-cost products), which can be supported by such assets as patents, licenses and equipment and others. These are called «key competencies» as they demonstrate that exactly they serve as the ground for the creation of competitive advantage.

Analysis of recent research

To the development of the theoretical and conceptual approaches towards the proceeding of the technologies of the governmental management of the economy in the sphere of accumulation of intellectual capital are devoted works of foreign and domestic scientists, namely O. Alymov, D. Bell, J. Galbraith, B. Danylyshyn, L. Dickens,

I. Egorov, L. Edvidson, M. Malone, T. Stewart, B. Andrushkiv, O. Butnik-Seversky, B. Malitsky, I. Bystryakov, V. Heyets, J. Lysenko, O. Lyapunov, B. Mukytenko, O. Novikova, G. Savina, O. Tsybu-lov, A. Chukhno, Y. Yatskov and others.

Statement of research objectives

- to identify the directions of globalization processes;
- to form the groups of intellectual resources of economic entities;
- to determine the role of the informational and intellectual resources in the processes of production of goods and services in the knowledge society.

Results

The stage of modern economic development is characterized by the growing role of individual and collective knowledge at all levels of the economy - from micro level to the development of innovative public policies. At the theoretical level this stage of economic development is characterized by the development of notions of the theory of knowledge (knowledge as the economic category), problems of research and measurement of knowledge, the creation of knowledge management.

Russian scientists see the knowledge economy as such level of economic development, where knowledge serves as the factor, the product and the measure of organizational activity [4, p. 31]. In the economy where the cycle of financial and commercial capital is complemented by the circulation of intellectual capital, knowledge as the technological part of the intellectual capital is beginning to play the significant role of the resource insurant for the operation of businesses entities.

The production and consumption are getting knowledge-consistent, while the new forms of knowledge which became the object of the sale and purchase agreements such as brands, franchisees and others appear.

The information on the market demand, combined with the knowledge about how to meet them create the opportunities for the deployment of virtual economics and virtual enterprise structures [3].

The evolution and significance of different levels of knowledge in the post-industrial society are associated with the emergence of such characteristics as «profound knowledge» and «personalization of knowledge.» In the previous eras of the economic theory and practice the collective knowledge with the high degree of generalization was studied and evaluated. In the knowledge economy, however, when cognition became the essence of knowledge, its perception, formation, preservation and transfer had been personified.

Russian scientists state that while in the industrial society individual had to meet the requirements of the society, in the postindustrial one the society in its turn must meet the needs of the individual [5, p. 38]. This significantly alters the functioning of the social structures and economic characteristics.

To the determination of the role of the individual knowledge in economic development are devoted works of French neo-industrialists and some Ukrainian scientists [1, 5]

Based on the research of Ukrainian and foreign scientists devoted to the processes of forming the knowledge economy, the following specific features and elements of the new phase of economic development can be formulated.

1. The change of the logistical and material base of production through automation and computerization of the production and resource costs for making products (minimization of the material costs, the increase of information) [7].

2. The development of the information support of the social processes by improving the in-

formational technology, implementing new technologies of communication and knowledge management systems [5].

3. As the most important resource becomes the intellectual capital and its carriers- personnel.

4. As the source of creating the new value serves the intellectual potential of the employee, and not his psycho-physical efforts, meaning that its only his/her creative and innovative character of work creates the additional opportunities for businesses.

5. The informational and networking technologies define the technological mode of the production and sales, the organization and management of these processes (the creation of the networked virtual organizations).

6. The nature of work had been changed in such a way: the intellectual content of it increased the same as the decentralization and de-urbanization of the production (remote work). Also it is marked by the development of business activity in all areas, the introduction of new partnership relations into the organization of labor.

7. The public and private consumption is changing towards knowledge-consistence and individualization.

8. There is the elimination of the alienation of the manufacturer from the means and results of production (after sale information and knowledge belong to the seller).

The formation of knowledge economy in Ukraine is being conducted in the conditions of the globalizing economy. Thus, globalization is seen as a comprehensive process that covers the following areas:

- the reduction of barriers for the economic, political and cultural interaction between countries and nations [7];

- the formation of the homogeneous economic, political and cultural spaces;

- the creation of the transnational institutions such as virtual organizations and international innovative structures [6, 2].

Globalization in the knowledge economy is manifested through such factors as speeding up the process of the capital accumulation and increasing the exports of the capital (the appearance of the term «global capital»). Thus, 500 of the largest TNCs of the world provide 2/3 of the global production of goods and services, which constitutes to the 1/3 of the world exports and 4/5 of technologies and administrative service's trading) [6]; the internationalization of supply and de-

mand, which is manifested in the standardization of the consumer markets; the changes in the nature and structure of the global capital by increasing the share of intellectual and human capital (the development of the virtual capital as well as the advanced levels of the money and short-term stock market's instruments), the ratio of high-tech and commodity sectors and branches of the national economy which determine the possibility of including it into the world's global processes.

For Ukraine this means the need to develop and implement the strategy of innovational model of economic development. In the conditions of deployment of the globalization processes the personalization of the categories of the knowledge economy leads to the increased anthropogenic factors that determined the uncertainty of environment. Considering the economic system as the poly-systemic formation, the development of which is carried out through the mechanism of management and stabilization in view of the internal capacity and external changes, it can be argued that uncertainty is the constant factor of its functioning. Uncertainty as the object of economic research is seen as the relation between economic actors in the conditions of the development of multiple economic situations with inaccurate or missing information about the quantitative parameters of their measurements.

The value of uncertainty increases through the existence of the following factors:

- the complicated character of the system and fundamental research of the operation of socio-economic systems;
- the nonlinear nature of the creation and functioning of the open complex systems;
- the increase of the uncertainty in the functioning of economic actors through the transformational changes in the nature of the main economic categories (capital, labor, knowledge, rights, globalization), which are not enough theoretically grounded and practically described.

Based on the studies of P. Drucker, A. Tofler, T. Stewards the formation of the intellectual society is seen as the factor shaping its derivative and uncertainty [2]. The features of the impact of the factor of uncertainty on the economy of knowledge are shown by the following factors:

- the growth of the dynamics of the economic processes of capital formation and economic structures of a new type;
- the increase in the value and volume of information needs, values and motives for human

actions and how they are being formed and eventually change;

- the existence of the non-predictable development of science and new technologies and the impacts of their influence on public life and the environment;

- the formation of the new economic virtual organizations, which had not found the adequate reflection in the economic science and institutional structures due to the lack of information about their operation.

The uncertainty of the development of the subjects of the Ukrainian economy depends on domestic and international economic factors and is divided into:

1. The uncertainty which is generated by the formation of the new society of knowledge, which requires the development of the innovative strategies based on the intellectual capital of the enterprise and using the networked information structures of the economy.

2. The uncertainty which is generated by the global processes with the requirements of forming the single economic and informational environment, which determines the needs and behavior of the population.

The specific feature of the knowledge economy is the emergence of the increasingly complex intellectual rather than physical forms of the capital, which possess the greater potential for the economic activity.

The economy of knowledge is such a level of economic development, when the intellectual resources are being brought ahead. It's the economy, where new knowledge is being produced, accumulated and used effectively; where there is the supply and demand for it, where knowledge makes the use of the inputs more efficient. The systematic study of the formation and effective use of the intellectual capital of the economy becomes very important for the economic reform and the development of the social and economic policy aiming at economic growth. These processes are being characterized by the relative novelty which makes it necessary to deepen the theoretical and methodological study of the problem of identification of the intellectual resources, their role in shaping the intellectual capital and the use of their intellectual potential.

The existing theories for the formation of intellectual resources of the businesses entities can be divided into three groups: economic, administrative and social. The economic theories include the

following ones: the theory of the economic growth of Karl Marx, the evolutionary theory of economic change by Nelson and Winter, I. Schumpeter's theory; to the management ones – the concepts of R. Mintzberg, K. Prahalada, G. Hemel and other founders of the theory of strategic management; to the social ones - the theories which consider the people and social interaction between them (the theory of human, social and intellectual capital) as the main generator of intellectual resources [8].

Under the term «resource» (Fr. Ressource) one should understand the available assets: physical, financial (cash and universally recognized values), personnel, intellectual or intangible assets (information, intellectual achievements fixed in the documents, knowledge, generated relations), etc. [1].

In this context, intellectual resource can be considered as:

- the reserve of any (by type) information which serves as the source of the intellectual work of the individual or team;
- the professional and personal characteristics of the specialist (curiosity, ability, competence, etc..)
- the mean (method, mode of action in order to achieve something), which is being applied to if deemed necessary (the analysis, research methods such as logical thinking for instance).

This way into the concept of intellectual resources the informational, methodical and professional factors are being included. But these are not the only factors that determine the formation of the intellectual capital and its potential. In order to display the system features of forming the intellectual potential, intellectual resources should be considered as the economic resources that are being formed with the help of information, knowledge and energetic work. They increase the cost in the process of their exploitation, they constantly grow while moving into the new level (also known as the change of the state and potential), they are the source of the intellectual activity of the person or a group of individuals, and they form the competitive and innovative features of the business entities. The intellectual resources of the business entity should be regarded as the results of the creative intellectual work and knowledge of its workers, together with their professional and personal characteristics (ability, curiosity, and competence), methods (ways) in achieving something (analysis, logical thinking, and inference) and the organizational skills of the business entity.

The increasing volumes of the informational and intellectual resources in the processes of production of goods and services in the knowledge society contribute to the new understanding of capital as the factor of production.

In the works of local authors and in the translations of foreign publications the set of objects that are included into the composition of the IC as well as the ones which exist in the structure of material and financial resources reflected in the balance sheets are called «the assets». However, the term «asset» is assigned to certain economic and legal attributes, which the dominant IC resource – knowledge does not have. In order to ensure the semantic identity of the investigated objects of the IC it is essential to use the broader concept – holdings, with the allocation of the assets in their structure (objects that match this concept).

Holdings are the tangible and intangible resources of the production that do not necessarily have the liquidity and the objects of the property (including the assets that represent one side of the balance sheet) and express in the monetary terms all tangible and intangible values of the economic system. In this case the circle of the IC entities include the material holdings and assets such as patents, trademarks, operational technology and software programs, «intangible» holdings such as knowledge, technical skills, competence and opportunities of employees [6].

According to the traditional views on the structure of intellectual capital (E. Brukinh, L. Edvinson) and in accordance with the above definition of holdings, the resources of the intellectual capital of business entities can be divided into three groups: human, structural and market holdings. Human holdings include a set of individual and collective knowledge from the side of firm personnel, their competence, knowledge and experience in the particular branch of industry, their creativity, technological and managerial skills and so on. Market holdings are directly related to the operations made in the market which provide competitive advantages for firms. Structural assets and holdings ensure the successful operation of the main production and management of the business activities of all kinds [6].

Among so called «human holdings» the first and most common place takes knowledge while the epistemological and ontological attributes of this concept are still not specified. This actually is the identification of the concepts of «information» and «database». Thus, only the substan-

tives of the aspects of «knowledge» are being considered while the procedural aspects are being implied only at the level of technological know-how. As the result of this into the structure of the intellectual potential of the enterprise's staff are not included general scientific, economic and mathematical models and methods. These methods and techniques have sectoral restrictions (such as know-how) and restrictions on property rights. The acquisition and use of the intellectual resources are not associated with any cost and therefore, unlike the traditional factors of the production, they don't transfer its value into the newly created product and don't increase its cost. These holdings, because of their prevalence, do not have the unlimited liquidity and economic rights and their existence in one form or another cannot make an impact on the market value of the firm. However, they serve as the resource and the production factor. In its economic essence knowledge is the ideal renewable resource of production, the use of which is ideal. Under the certain conditions of its application knowledge can provide additional economic benefits. The intellectual work of the business entities' staff creates new values for the firm.

References

1. Апатова Н. А. Методологічні основи дослідження інформаційної економіки // Економіка України. – 2005. – № 7. – С. 58-65.
2. Грабинський І. Еколого-економічна система України. Порівняльний аналіз/ І. Рабинський: Монографія. – Львів : НТШ, 1997. – 239 с.
3. Елин А. От интеллектуального потенциала к интеллектуальному капиталу предприятия [Электронный ресурс] / А. Елин, Е. Елина. – Режим доступа. – <http://www.koism.rags.ru/science/actions/intell/05.doc>. – Название с экрана.
4. Климов С. М. Интеллектуальные ресурсы организации / С. М. Климов – СПб. : ИВЭСЭП, «Знание», 2000. – 357 с.
5. Леонтьев Б. Новая экономическая парадигма / Б. Леонтьев // Журнал для акционеров. – 2000. – № 12. – С. 37-43.
6. Мойсенко І. П. Інтелектуальний капітал в інноваційній економіці / І. П. Мойсенко, О. Б. Стефанишин // Вісник НУ «Львівська політехніка» «Проблеми економіки та управління». – 2007. – № 579. – С. 182-188.
7. Холден Н. Дж. Кросс-культурный менеджмент. Концепция когнитивного менеджмента / Н. Дж. Холден; пер. з англ. – М. : ЮНИТИ-ДАНА, 2005. – 298 с.
8. Edvinsson L. Intellectual Capital. Realizing Your company's True Value Finding Its Hidden Brainpower [Text] / L. Edvinsson, M. S. Malone. – N. Y. : Harper Business, 1997. – 270 p.

Conclusions

Thus, the general scientific, economic and mathematical methods have the main features of the capital – to create new value – and should be included into the structure of the IC. Formally, these holdings form the basis of the methodological knowledge that can be equally incorporated into the human and structural IC holdings. The mechanism of the intelligent use of the resources and holdings allows forming the intellectual capital (IC) of the business entity.

On the background of the rapid growth of the new «intellectual» economy it is necessary to systematize the accumulated experience with the study of intellectual capital as one of the types of the capital. Intellectual capital (from Lat. Intellectualis capitalis – head knowledge) can be regarded as the kind of capital that has the appropriate features of the capital and additionally simultaneously reproduces the specifics and peculiarities which are characteristic only for it. Intellectual capital in the context of technological, managerial and market innovations serves as the knowledge that can bring additional revenue and that can be measured.

