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INTELLECTUAL CAPITAL AS A POWERFUL
RESOURCE FOR ECONOMIC GROWTH

The article presents the essence of the "intellectual capital" concept and shows the need to study its functioning peculiarities at both micro- and macrolevels. The article analyses the estimation methods for intellectual capital. In the practice of intellectual capital estimation it is suggested to use the intellectual human resource.

Keywords: intellectual capital; intangible assets; estimation methods; human capital; coaching; enterprise.

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ІНТЕЛЕКТУАЛЬНИЙ КАПІТАЛ ЯК ВАГОМИЙ
РЕСУРС ЕКОНОМІЧНОГО РОЗВИТКУ

У статті досліджено сутність поняття «інтелектуальний капітал» і показано необхідність вивчення особливостей його функціонування та обігу як на мікро-, так і на макрорівні. Розглянуто методи оцінювання інтелектуального капіталу. Запропоновано використовувати в практиці оцінювання інтелектуального капіталу інтелектуальний людський ресурс.

Ключові слова: інтелектуальний капітал; нематеріальні активи; методи оцінки; людський капітал; коучинг; підприємство.

Табл. 1. Рис. 1. Літ. 14.

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ИНТЕЛЛЕКТУАЛЬНЫЙ КАПИТАЛ КАК ВЕСОМЫЙ
РЕСУРС ЭКОНОМИЧЕСКОГО РАЗВИТИЯ

В статье исследована сущность понятия «интеллектуальный капитал» и показано необходимость изучения особенностей его функционирования как на микро-, так и на макроуровне. Рассмотрены методы оценки интеллектуального капитала. Предложено использовать в практике оценки интеллектуального капитала интеллектуальный человеческий ресурс.

Ключевые слова: интеллектуальный капитал; нематериальные активы; методы оценки; человеческий капитал; коучинг; предприятие.

Problem statement. The current economic situation of the majority of countries suggests that the key driver for sustainable economic development is creative and innovative activity. Innovations and human factor are the main determinants which ensure the competitiveness of an individual, an enterprise, a region and a country in general. It is innovations which ensure the GNP growth in economically developed countries.

Ukraine has just embarked on the course of innovation development, aiming at integration into the European Union, where the innovation development model is the principal one, with the priority of "knowledge-based economy". At present, there is a significant gap in the introduction of innovations into different areas of economic activity between this country and the European Union member states.

According to the World Bank, the index of the knowledge-based economy, which is calculated on the basis of the indices of the innovation system, education and human

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resources development, information and communication technologies and economy conditions and state administration, equals to 5.55, while for economically developed countries this index comes to 8.21. The share of Ukraine in the world market for science-intensive products and services is less than 0.1%, while the ratio of volume of scientific-and-technological papers accounts nearly for 1% of the country's GDP. Innovative activity of industrial enterprises remains very low, and material and technical base of scientific organizations goes out of date fast (Strategic priorities, 2009).

The formation of economic innovation model in Ukraine first of all requires the development and effective functioning of innovative infrastructure, especially on the regional level. Innovations development is connected directly with the quality of life improvement. Brain drain and capital outflow influence the economy negatively. Therefore, the brain drain, patents sale or the introduction of unpatented inventions of our compatriots abroad are intellectual capital losses.

The experience of economically developed countries proves that innovative projects are the basic factor for the competitiveness of both enterprises and regions. Issues of financing remain the key problem on the way to effective introduction of innovative projects. Education, competence, social mobility are considered to be the main component of national wealth and the major resource for the socioeconomical development in the world community (Strategic priorities, 2009).

The viability of enterprises depends on the level of introduction of current achievements of scientific and technological development, i.e. on the efficiency of intellectual capital use.

Intellectual capital, which includes both material factors of production and labour (patents, licences, utility models, know-how, informal knowledge, i.e. experience and personnel skills) must become the basis for enterprise activity and competitiveness. Intellectual capital can permanently generate innovations, i.e. support the continuous process of transformation of new knowledge into new goods and services. For contemporary enterprises accounting and estimation of intellectual capital is an essential task.

The latest research and publications analysis. After such acknowledged pioneers in the intellectual capital research as L. Edvinsson and as M. Melone (1997), who were the first to define in their book "intellectual capital as an economic category and the type of capital, which includes all the types of capital which are not included into traditional enterprise resources appraisal" (Galbraith, 2004), this category was also studied by both foreign and domestic specialists, such as V. Danyuk et al. (2005), L. Edvinsson (1997), J. Galbraith (2004), D. Gill, T. Minshall, C. Pickering and M. Rigby (2007), V. Inozemtsev (1998), I. Matiyko (2010), O. Smirnov (2004), T. Stewart (2007), K. Sveiby (2001).

The review of scientific literature, dedicated to intellectual capital as the theoretical category and its definition as the part of the enterprise market value revealed that intellectual capital calculations have significant differences. These differences primarily base on different approaches to intellectual capital appraisal and its components.

Thereby, this category requires further research. The study of the category "intellectual capital" allowed making a conclusion on the basic stages of this category formation.

The research objective is to define the essence of intellectual capital and its role and the evaluation of its use efficiency on both micro- and macrolevels.

Key research findings. Though the notion of "intellectual capital" was officially first used by J. Galbraith (2004) in 1969, the process of this concept formation was arranged long before. That is why it is important to consider the main stages of this category formation.

At the first stage – the stage of the notion of "intellectual capital" formation, the end of the VIIIth – beginning of the XXth centuries, – the notion of "intellectual capital" was sometimes substituted by "production factor". New type of capital referred to such production factors as "land", "labour", "natural resources", "capital", "knowledge and intelligence", which take part in additional value creation.

At this stage the possibility of substitution of knowledge for labour was established, in the consequence of which knowledge becomes a source of new value. At the second stage – the stage of "comprehensive, integrated study of the intellectual capital category" (XXth century), such new terms as "knowledge worker", "white collar" appear and their connection with "intellectual capital" is being studied. The concept of "decent work" was also developed in this period.

At the third stage – the beginning of the XXIst century – D. Bell introduced the notion of "post-industrial society". In the context of post-industrial economy, under the influence of the scientific and technological advance, develops the market of intellectual innovative goods, the differentiation of work statuses increases, and the requirements to a man as the bearer of knowledge and intellect are redetermined (Morgunov et al., 2001).

The results of enterprises activity in Europe and Ukraine over the last years demonstrate the growth of intellectual labour. Thus, the production of "new knowledge" becomes paramount in different areas of enterprises' activity. The GDP growth per capita is observed in regions with high concentration of intellectual capital. It can be exemplified by the software company "SAP", situated in a little German town Waldorf, with the annual turnover of more than 14 bln EUR and with the profit of nearly 5 bln EUR, that is why it would be reasonable, to our mind, to speak about the concentration ratio of intellectual capital across regions, and also about the capital-productivity ratio of intellectual capital.

As for the efficiency indices of the intellectual capital use on the microlevel (enterprise), it would be reasonable to calculate the percentage ratio of enterprise intellectual capital in the general volume of its capital in the terms of expenses on human capital reproduction, as well as the profit ratio from the certain type of intangible assets to this asset value. Human Capital Index (HCI) per capita is widely used in the world; it reflects the level of expenditures of state, private sector and citizens for education, health service and other social service sectors in per capita terms.

The fundamental criterion of economic growth in a region is the effective use of its human and intellectual resources. Intelligence turns into a factor of production when human capital transforms into a useful model and a clear form of a new product and technical documentation (Sveiby, 2001).

Economists and experts give different definitions for "intellectual capital". Thus, T. Stewart defines it as "total knowledge of a company personnel, who make the company competitive" (Smirnov, 2004). V.L. Inozemtsev explains intellectual capital as

"information and knowledge, very specific in their nature and forms factors, which in the terms of a company turn into intellectual capital" (Inozemtsev, 1998).

However, in these definitions the concept of intellectual capital refers to the concept of human capital. The category of intellectual capital is wider and includes stored knowledge, information, database, experience, organizational capabilities, communication channels, customer and suppliers relations, accumulated for many years, which can be used for creation and improvement of an enterprise product. So, intellectual capital is a sum of formalized and non formalized knowledge, which can be converted into value.

The main tendency of modern companies' development is capital reorganization by means of intellectual capital gain.

Intellectual capital can be regarded as one of company's resources, which exists only in market relations, where human skills are considered to be a product. Being one of the types of enterprise capital, intellectual capital in its circulation has all corresponding stages. Figure 1 illustrates the intellectual capital movement and the stages of its transformation.

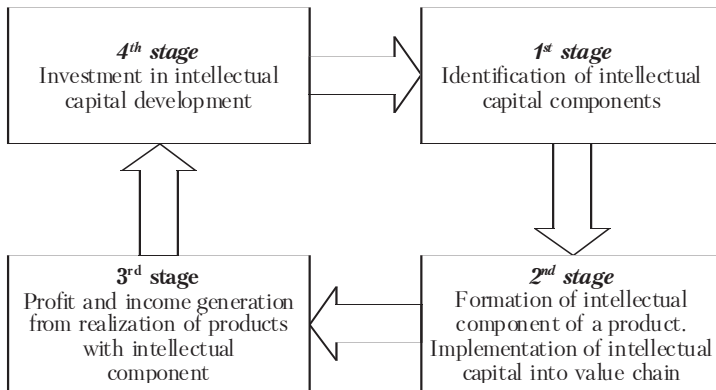


Figure 1. The main stages of intellectual capital reproduction, developed by the authors

Intellectual capital implements the circulation process, where it acts as a system. The significant part of its circulation cycle is connected with expenditures of investment money, and their payback is not immediate. It is not earlier than on the stage of intellectual capital embodiment emerges the possibility to cover the expenditures and to make profit.

The important moment in the process of intellectual capital reproduction is the process of knowledge transfer, i.e. coaching. Coaching and assistance systems existed at Ukrainian enterprises even during the Soviet Union times. It was at that time when the system of benefits and allowances on "coaching" was developed. Nowadays the old system of the so-called coaching doesn't operate, while the new one hasn't been developed, but the main problem is that nowadays there are no benefits for "coaching" at enterprises. Today's companies have the need for coaching, but most of them prefer collective training of staff. That is why coaching is used only in relation to staff adaptation in a company and is scarcely practiced in professional development of employee.

Due to the fact that intellectual capital has two forms – explicit (documents, data, information) and the latent one (experience, skills and knowledge), in the process of circulation the part of latent intellectual capital transforms into the explicit one under the influence of internal and external factors.

Knowledge, transferred from one employee to another, is the main resource for company development and its intellectual capital. Latent capital as well as implicit knowledge is the principal component of corporate culture of any enterprise. Latent capital is the resources of an enterprise, which are not formalized and are transferred from one employee to another in the process of labour relations. The use of coaching methods at rapidly developing enterprise raises economic efficiency from the use of the newest achievements of informational (cognitive) technologies of an enterprise (Stewart, 2007).

Efficient management of a company intellectual capital delivers capital appreciation and consequently the market value of an enterprise. The implementation of promotional investment support events on investment into human capital permits to improve personnel skills and creativity. The main resource of any enterprise in the competitive environment is intellectual capital, so its estimates at both macro- and microlevels is one of the most important objectives for economic experts and scholars. There are different methods of intellectual capital determination, based both on quantitative and qualitative estimations.

In the quantitative method the analysis is aimed at the definition of economic benefits from intellectual capital and fixed assets combination and the calculation of the integrated index on this basis. Among quantitative methods are the following models of intellectual capital evaluation: Technology Broker, the model of economic value added (EVA), "Navigator" by Skandia, IC-Index, the model "Intangible assets monitoring". The main methods of intellectual capital evaluation of an enterprise are presented in Table 1.

Table 1. The key methods of intellectual capital estimates of an enterprise, developed by the authors

Method name	Characteristics
1. "Business Navigator" by Skandia	Economic indicator system, which reflects the real enterprise value and is used as an appendix to internal and external financial reporting of a company.
2. Intellectual capital monitor by "Celemi"	Integrated method of intellectual capital management, based on 3 evaluation categories: clients and suppliers, internal structure of a company and its personnel.
3. Intangible assets monitoring by K. Sveiby	Intellectual resources are analyzed in 3 directions: external structure, internal structure, personnel competences. Certain estimate indicators in these directions are chosen according to specifics and strategic targets of an enterprise.
4. The method of integral index ICTM	This estimation system is based on finding the index, which was developed by British company "Intellectual Capital Services". The procedure of index computation supposes the identification and formation of 4 intellectual capital component hierarchy (relationship, personnel, infrastructure, innovations)
5. Balanced Scorecard (BSC)	The estimation system is not aimed at intellectual capital identification, but is connected with efficiency monitoring of company's strategy fulfillment on the basis of financial and non financial indicators. Personnel estimation, training and professional development of staff is pointed out as a separate task. Other elements within intellectual capital are presented in 3 different units of the BSC estimation system.

Continuation of Table 1

Method name	Characteristics
6. The model of Residual Operation Income	Income as an eventual financial result of enterprise performance is characterized by the general index from all activity areas of an enterprise. Income, received from the use of both material and non-material resources (tangible and intangible ones). The share of residual income is made by each type of these resources.
7. ABC Method	The general method of company's performance appraisal, based on dividing expenditures into 2 components: expenditures of its separate units and human expenditures.
8. Tobin's Q ratio	It is the ratio between the market value of an enterprise and replacement value of the same physical assets (i.e. buildings, equipment, resources). It is an analytical ratio, which is characterizing investment attractiveness of an enterprise. There are two ways to calculate it: the first one is by comparing the market value of a company's stock with its equity book value; the second method is by comparing the value of stock market with corporate net value of a company, without liability to current creditors.
9. Human capital index (HCI)	The index reflects the expenditure level of state, private sector and citizens on education, healthcare and other social sectors in per capita terms.

Nowadays, all the existing methods of intellectual capital evaluation, based on different techniques and approaches, are not widely used at Ukrainian enterprises. However, in estimating the enterprise value, intellectual capital is defined by the inverse method, as the difference between the market value of a company and its physical assets.

Conclusions. The importance of intellectual capital to raise the performance efficiency of enterprises, country and particular regions increases every year. That is why intellectual capital acquires a new vision. Absolutely new methods of its evaluation and management appear. Especially an important step is the introduction of indices which characterize human capital development. It is recommended to make an analysis of economic development of regions, using the following indices: intellectual capital concentration across regions of a country, intellectual capital productivity, and human development index.

References:

- Державна стратегія регіонального розвитку на період до 2015 року: Постанова Кабінету Міністрів України від 21.07.2006 №1001 // zakon.rada.gov.ua.
- Гелбрейт Дж.* Новое индустриальное общество / Пер. с англ. – М.: АСТ: Транзиткнига; СПб.: Terra Fantastica, 2004. – 602 с.
- Иноземцев В.* В поисках источника богатства // Мировая экономика и международные отношения. – 1998. – №3. – С. 151–153.
- Концепції гуманітарного розвитку України на період до 2020 року: Проект // Стратегічні пріоритети. – 2009. – №3. – С. 11–30.
- Матійко І.В.* Провідна роль держави в стимулюванні інноваційних зрушень // Економіка та держава. – 2010. – №12. – С. 24–32.
- Менеджмент персоналу: Навч. посібник / В.М. Данюк, В.М. Петюх, С.О. Цимбалюк та ін.; За заг. ред. В.М. Данюка, В.М. Летюха. – К.: КНЕУ, 2005. – 398 с.
- Модели и методы управления персоналом: Российско-британское учеб. пособие / Под ред. Е.Б. Моргунова. – М.: ЗАО «Бизнес-школа «Интел-Синтез», 2001. – 464 с.
- Смірнов О.О.* Інноваційна активність персоналу як джерело зростання конкурентних переваг підприємства // Актуальні проблеми економіки. – 2004. – №11. – С. 116–125.
- Стюарт Т.А.* Интеллектуальный капитал: Новый источник богатства организаций. – М.: Поколение, 2007. – 366 с.
- Економіка знаній: Коллек. монографія / Отв. ред. д-р экон. наук, проф. В.П. Колесов. – М.: ИНФРА-М, 2008. – 432 с.

Edvinsson, L. (1997). Change or Navigation for Intellectual Capital. Focus on change management: cases in business process reengineering, 38: 8–12.

Edvinsson, L., Melone, M. (1997). Intellectual Capital: realizing your company's true value by finding it's hidden brainpower. Harper Business, New York. 217 p.

Gill, D., Minshall, T., Pickering, C., Rigby, M. (2007). Funding technology. In: Government Support for Innovation (pp. 55–61). University of Cambridge Institute for Manufacturing. Cambridge: Mill Lane.

Sveiby, K.-E. (2001). A knowledge-based theory of the firm to guide in strategy formulation. Journal of intellectual capital, 2(4): 344–358.

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КНИЖКОВИЙ СВІТ



СУЧАСНА ЕКОНОМІЧНА ТА ЮРИДИЧНА ОСВІТА
ПРЕСТИЖНИЙ ВИЩИЙ НАВЧАЛЬНИЙ ЗАКЛАД
НАЦІОНАЛЬНА АКАДЕМІЯ УПРАВЛІННЯ

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Має гриф підручника від Міносвіти України.

У даному підручнику, котрий дає системне і змістовне уявлення щодо управління капіталом у всіх його формах. Комплекс питань, що стосуються фінансово-кредитних відносин на макро- і мікрорівні з точки зору міжнародних стандартів фінансового розвитку, дозволяє сформулювати у читача глибоке уявлення про взаємозв'язки комерційної діяльності підприємств з державним механізмом регулювання монетарної сфери через розробку і реалізацію фінансової і грошово-кредитної політики в Україні.

Включає тезаурус з більш як 700 понять, використаних у підручнику.

Представляє інтерес для студентів вищих навчальних закладів, наукових працівників, викладачів, аспірантів, практичних працівників, а також усіх тих, хто цікавиться фінансовим менеджментом.