

The proposed innovative process-centered approach to HEI management based on modern concepts of customer-centered management makes the scientific novelty of the research. The approach is characterized by refocusing the management on a customer's subjective and objective needs and demands.

Unlike existing approaches the innovative process-centered approach enables to determine the subsystem that prompts the HEI's development and presented by the process of quality assurance, the process of creating a customer's positive experience and loyalty, the process of continuous innovation providing, the process of a HEI's image growth. The practical value of the current research results in development of methodological recommendations on restructuring of the system of universities management and a university's adaptation to a competitive market and functioning as an autonomous economic entity.

### **1.13. Intellectual capital concept and its components for higher education institution**

During the post-industrial society, the academic sphere, without changing its importance for society development, is increasingly integrated in the production and its management process. As innovative projects complexity and financing scale require the distribution of high risks among the participants, high-tech and leading global companies enter into various kinds of alliances, partnerships and other unions of financial, technological, educational and informational type. High risks have determined the relevant requirements for information and the person who operates the information. The main resource in creating additional cost – profit – in the "new economy" is a person with knowledge and skills to multiply this knowledge, which is accompanied by intellectual capital development.

Recent socio-political and economic transformations in Ukraine: – changes in state institutions, the emergence of civil society, raising the problems of a middle class formation, destroying large-scale corruption, creating mechanisms for motivation in innovative and ecological development of the economy – show the capitalist economy development and actualize the research in universities intellectual capital management in the context of entry into the European market of educational services.

The concept of intellectual capital is due to the emergence of *human capital* theory development in the second half of the twentieth century (G. Becker, I. Ben-Poret, E. Denison, O. Nordhough, L. Turou, T. Schultz, etc.). F. W. Taylor (school of "scientific management") recognized the importance of knowledge and experience among workers. P. Drucker, using the term "intellectual", admitted that "knowledge has become a key economic resource and dominant – and perhaps even the only

source of competitive advantage". The representative of neo-classicists A. Marshall gave preference to knowledge, arguing that capital consists of knowledge and organization<sup>138, 139, 140</sup>.

The study where intellectual resource is seen as the basis for the formation of social-class communities in different societies is worth noticing (J. K. Galbraith, J. Conrad, P. Newbert, I. Selene, A. Toffler, A. Touraine). Capital as an economic category was investigated by K. Marx, who defined capital as a form of social (economic, industrial) relations between people and the exploitation of hired workers as a prerequisite for the creation of added cost. The resource component, the ownership-to-resources relation, the possibility of resources cost estimation, actual or probable economic benefits in the process of using such resources were called the specific features of capital. The definition and study of variable capital category, which, by economic content, is the closest to the notion of intellectual capital in modern sense belongs to K. Marx<sup>141</sup>.

At the present stage of economic thought development, two concepts of capital can be considered: antisocial and sociological<sup>140</sup>. The antisocial concept of capital, which has no ideological orientation, prevails in the west and characterizes capital as a set of production means or as a monetary amount used for business operations in order to generate income<sup>141</sup>. There is no exception for current interpretation of intellectual capital as a set of knowledge, skills, intangible assets that bring strategic benefits for organization or profit<sup>142, 143, 144, 145</sup>.

At the same time, the sociological concept considers the accumulation of capital as a historical category, which expresses specific socio-industrial relations between economic entities with regard to factors and outputs of production or services. The analysis of economic-oriented publications showed that intellectual capital as an object of economic research is considered only from the standpoint of antisocial concept, which requires the study of its essence within the sociological concept framework. A higher education institution was chosen as the subject due to

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<sup>138</sup>Сутність нагромадження капіталу. [Електронний ресурс] – Режим доступу: <http://ua-referat.com/>

<sup>139</sup>Економічна енциклопедія: У трьох томах. Т. 2. / Редкол.: С. В. Мочерний (відп. ред.) та ін. – К.: Видавничий центр «Академія», 2000. – 864 с.

<sup>140</sup>Drucker P. F. Post-Capitalist Society. – Oxford Butterworth: Heinemann, 1993, p. 271.

<sup>141</sup>Ватаманюк З. :Економічна теорія макро- і мікроекономіка // За ред. З. Ватаманюка, С. Панчишина. – К.: Видавничий дім «Альтернатива», 2001. – 300 с.

<sup>142</sup>Edvinsson L. Intellectual Capital: realizing your company's true value by finding its hidden brainpower (1 st ed.) / L.Edvinsson, M.S.Maloni. – N.Y.: HarperBusiness. –1997.

<sup>143</sup>Brooking A.Intellectual Capital: Core Asset for theThird Millenium Enterprise / Annie Brooking. – L.: Internatinal Thompson Business Press. – 1998.

<sup>144</sup>Стюарт Т. Интеллектуальный капитал. Новый источник богатства организации / Томас А. Стюарт : пер. с англ. В. Ноздриной. – М.: Поколение, 2007. – 368 с.

<sup>145</sup>Чухно А.А. Интеллектуальный капитал: сутність, форми і закономірності розвитку / А.А. Чухно // Економіка України. – 2002. – №12. – С.61-67.

the importance of intellectual capital development for the provision of scientific and educational services.

The purpose of the study was to systematize the concepts used in the management of capital modern form – intellectual capital, the definition of “intellectual capital of a higher education institution” within the framework of antisocial and sociological concept of capital, intellectual capital components characteristics of a higher education institution in the context of "new economy" or "knowledge economy".

The research of *intellectual capital* concept has shown the variety of definitions identified or associated with it. The closest concept is *intellectual potential*. Potential refers to the capabilities of an entity (person) or a set of resources for business entity (enterprises, companies, organizations), which usage allows to achieve a certain goal (results). *Intellectual potential of society* is understood as the complex of human, material and financial resources that are involved in two closely related key areas of the spiritual life of society – science and education – and the value of which shows the ability created and accumulated in society to creatively develop new knowledge, technologies, products.

*Individual intellectual potential* as an economic category characterizes his ability to solve various tasks, gain new knowledge, master new intellectual skills, adapt to changing situations<sup>146</sup>.

*Business entity intellectual potential* consists of human potential in terms of intellectual output and organizational capacity. *Human potential* (a term known as *labour potential* and in business entity management is found as *human capacity*) is a combination of human capabilities and abilities. Human potential is characterized by quantitative and qualitative indicators of society *labour resources* (the number and structure of the able-bodied and unemployed population by age, sex and territorial placement, quality of education and skill level of the able-bodied population, level of medical care, level of occupational diseases, average wage, etc.) or business entity *human resources* (number of staff, level of its education and qualifications; social, age and gender structure; specific workers competence – a set of skills and knowledge; professional and life experience; motivations, morally oriented abilities to collect, process and develop new knowledge, use them effectively).

*Labour resources* peculiarities are two forms of manifestation of their usage – material and intellectual (intangible). The *material result* of labour resources usage at micro level is, for example, produced and sold finished output, services rendered, work performed, goods sold. At macro level there are buildings and structures of

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<sup>146</sup>Давидова О.І. Реалізація інтелектуального капіталу: сутність, складові, роль системи зайнятості в цьому процесі / О. І. Давидова // Журнал бізнес-інформ. – 2013. – Випуск №2. – Режим доступу: <http://www.irbis-nbuv.gov.ua/>.

public and general economic significance. The material result belongs to the employer of hired workers or the state and is their property and capital. The payment for *material result* from the use of labour resources is: wages and the free use of public goods (roads, communal property objects), which are part or built on the basis of added cost (taxes) created by the work of hired members of the society. At the same time, wages and public goods serve as a source of renewal of human resources used and a source of investment for the further development of human potential – its build-up.

The *intellectual result* of labour resources usage is the knowledge, experience and information that appear, spread and accumulate among the participants in socio-economic relations (including industrial ones). The *intellectual result*, unlike material one, belongs to an employee. But an employer has the opportunity to use this result in a knowledge management system (accumulation, distribution and use of knowledge within the organization). This involves sending part of the added cost created by employees to periodic advanced professional training, conducting corporate trainings, ensuring compliance with standards and improving working conditions, acquiring automated systems for managerial information transfer and controlling the accomplishment of tasks, holding measures for developing personnel favour (loyalty) to their company (organization), etc.

The mentioned measures form the second component of intellectual potential – the *organizational capacity*, which depends on the parameters and characteristics of organizational resources – the structure and links of management and functional units (institutions), methods and technologies for the adoption and implementation of solutions, technical means of management and inside information control, the organization of knowledge distribution among employees, etc.

By giving a quantitative and structurally qualitative assessment of a business entity intellectual potential through the results of its usage at a certain point, it is necessary to distinguish between deposits available, resources and assets. According to International Accounting and Valuation Standards, an asset, unlike a resource, differs by: the predicted economic benefits from future use; the fixed value on the basis of incurred expenses for their creation (acquisition) or value of the expected economic benefits from their use; the presence of ownership formal right (control) by the owner.

Among intellectual deposits, it is also necessary to distinguish those which belong to employees. It is for them that they are or can become assets that bring economic benefits in the form of wages, bonus issues (options), additional payments and other benefits.

Today, the notion of *human capital* reproduction is taking on great importance. Specific nature of the relevant investments is in a long-term, remote in time cost

advantage. Formation of perspective labour quality requires the attraction of significant resources in human potential development. The main forms of investment are the costs of education, in-plant training, health care, etc. In particular, education costs are considered as a factor in raising the rate of intellectual capital accumulation.

In this case, *human capital* can not officially belong to an enterprise, because it is formed during the long-term educational process of a particular person. Essentially, the owner of an enterprise does not participate in this process. An employee is the owner of economic benefits from the use of human capital in the form of wages or additional benefits, as well as the state (insurance companies, funds), in the form of taxes on an employee wages. From this point of view, the state can be considered as a "co-owner" of human capital, because at the expense of state (budget) funds, in particular, educational and culture institutions, health care facilities are maintained.

The quality of human resources depends on their services. The employer only manages human (labour) resources and bears the current costs for maintaining such resources. Capital expenditures or investments in labour potential are carried out by the person himself (his family, parents).

It should be noted that the presence of one expert or group of experts in one field of knowledge does not allow a modern enterprise (organization) to engage in competitive activities. Effective use of human resources (with economic benefits in the form of profits, percentages, etc.) is possible only through the association of experts in various branches of knowledge and age (experience) in order to obtain a synergy effect. Organization of experts' teamwork with the corresponding legal status requires appropriate organizational resources and structures. In the absence of the latter, the effectiveness of human resources usage is questioned.

Organizational resources through capitalization form *organizational capital*. There are many definitions of "organizational capital" concept in scientific literature. Thus, L. Edvinsson and M. Malone most successfully identified organizational (structural) capital as the organizational capabilities of a company that should meet market needs – the forms, methods and structures that enable them to effectively select, develop and spread knowledge, organize them in the system, accessible to all employees, which makes it possible to achieve a synergy effect from joint activity<sup>144</sup>. According to E. Brooking, the important thing in organizational capital definition is that the ownership of such "institutional knowledge" belongs to the organization (enterprise)<sup>145</sup>. It is this feature that distinguishes the organizational capital from the human capital belonging to the employee.

At the same time, tools for property rights legal registration in the form of patents, licenses, trademarks and technical means of accumulation-to-distribution of knowledge through databases using software can be found in many scholars'

definitions. But these aspects are not signs of organizational capital, but are merely the manifestations or resources through which it operates.

No less important in the development of organizational capital concept was L. Edvinsson definition of client (consumer) capital. Understanding the availability of customer capital has made a logical association of organizational and customer capital in the structural one, which eventually allowed separating two components of intellectual capital: human and structural capital.

Fig. 1.15 shows the process of intellectual capital development through the use of intellectual potential with the discovery of resources and assets that are divided into human and organizational. The formation of human, organizational and client capital determines the nature and level of the intellectual capital.

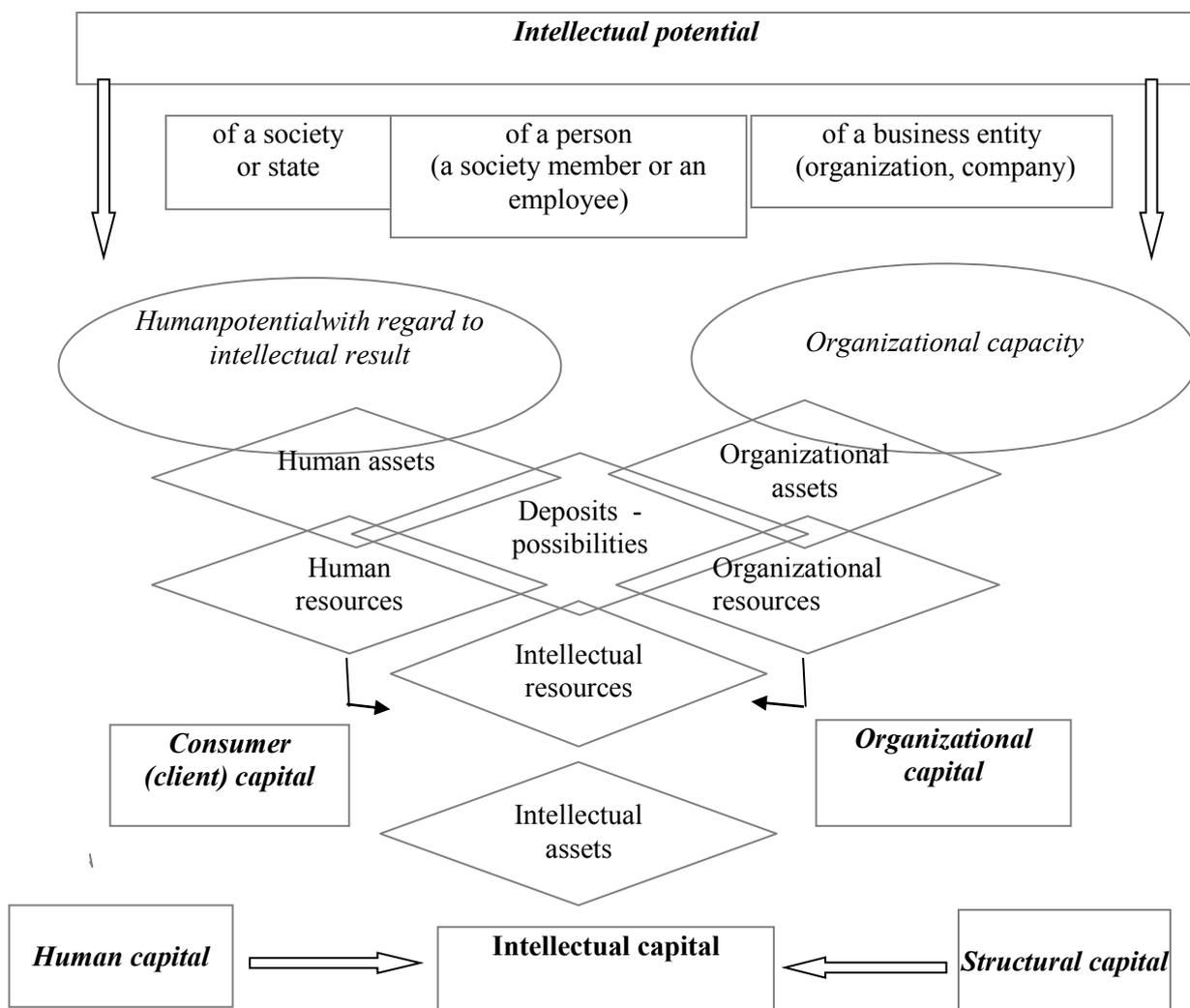


Fig. 1.15. The notion of "intellectual capital" in the system of concepts and categories related to it

Within the framework of an antisocial concept of capital, intellectual capital is defined as a combination of intellectual resources and assets that bring economic

benefits or as a monetary amount invested in intellectual resources and assets of a business entity for the purpose of obtaining economic benefits. The following views regarding the essence and content of "intellectual capital" category include further definitions:

- the combination of intellectual resources and the ability to implement them, which ensure the conditions for long-term development of a higher education institution on the basis of generation, accumulation, information and knowledge usage (facts and rules)<sup>147</sup>.

- the "corporate" asset or resource that exists only under the conditions of a regular organized community (corporation) with its own social skills and interactions of personal "intellectual brands", experiences and competencies<sup>144, 145, 146</sup>.

From the point of sociological concept, intellectual capital should be considered as a socio-historical category that expresses specific socio-industrial relations between the entities of the "knowledge economy" about the added cost part conversion (profit and part of employees' salary) into additional costs (intellectual resources and assets), which is accompanied by the expansion and conclusion of property relations for such cost (intellectual resources and assets). The generalization of domestic and foreign scholars' views on the essence and content of "intellectual capital" category became the basis for the formation of the author's vision of this category within the framework of sociological concept.

*Higher education institution intellectual capital* is a synergy set of owned and external intellectual assets and resources. Due to their development and usage there are socio-productive and economic-legal relations between coordinators of university activity and its management (state, investors, donors, entrepreneurs, students and academics) in the work of educational and research structures (faculties, departments, laboratories, educational workshops, commercial schools, technical and innovation parks, research and production complexes, functional departments, etc.) with the purpose of development strategy realization in conditions of information economy.

Table 1.4 reflects the classification of higher education institution intellectual deposits, which is considered by S. Illiashenko<sup>149</sup>, according to generally recognized intellectual capital components.

Considering the presented intellectual deposits, it should be noted that in most cases, intellectual assets become the organizational capital assets for a higher education institution. All others are only partially controlled by management, since they are difficult to evaluate, relatively quickly lose value due to changes in

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<sup>147</sup>Давидова О.І. Реалізація інтелектуального капіталу: сутність, складові, роль системи зайнятості в цьому процесі / О. І. Давидова // Журнал бізнес-інформ. – 2013. –Випуск №2. – Режим доступу: <http://www.irbis-nbuv.gov.ua/>.

environmental factors or leave the field of subject to management along with personnel changes.

*Table 1.4*

Classification of intellectual deposits for a higher education institution with intellectual capital components

Intellectual capital			
Human capital	Structural capital		
	Client (consumer) capital	Organizational capital	
		Innovation capital	Process capital
Assets and resources depending on employees competencies	Assets and resources as a result of the relationship with the external environment	Assets and resources as a result of academic research work	Infrastructure assets and resources
Academics' knowledge and experience. Scientific information (monographs, research reports, scientific articles, etc.). Curricular information (curricula, textbooks and manuals, guidelines, tests, etc.).	Certified conformity of educational services with national and international standards of education. Established relationships with contractors (entrants, education establishments, enterprises and institutions providing employment for graduates), as well as representatives of contact audiences (mass media, credit and financial institutions, political movements, authorities). Effective employment system. Economic information (marketing, information about other higher education institutions, technical and economic characteristics of educational, research and production equipment, technologies, etc.). The image and business reputation of a higher education institution.	Ownership of a higher education institution and their staff for intellectual property products (know-how, patents, registered trademarks (trademarks, brands), industrial patterns, etc. Knowledge-based products and services, technologies of their production.	Licenses and documents on accreditation of certain majors. Corporate culture and socio-psychological climate. Software, information and other support. Information systems, communication means and tools, management technologies.

In conditions of global competition, only the unique character of intellectual capital and its constant accumulation can ensure the strategic development of society and a separate organization. Based on the logic of capital development, future transformational changes in Ukrainian economy will be accompanied by significant changes in the structure of capital by its types, activities' types (technological modes). In particular, it will be connected with the formation of ownership relations for *intellectual assets* in the process of real and fictitious capitalization for those entities whose development opportunities depend on the growth of intellectual assets, in the field of research and information, scientific and educational services in particular.