

Genesis of the Theory of Intellectual Capital and Its Importance in Modern Economy

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Abstract

Economic progress and scientific and technological revolution have led to the steady increase of the role of the intellectual component of both economic and social development in the recent decades. Innovative ideas, non-standard management solutions and inventions in all fields significantly affect not only the competitiveness of companies, but also social and economic progress and the life of humanity as a whole.

The first steps in the study of intellectual capital were performed in the developed countries of Europe and Northern America in the second half of the 20th century in response to the increasing trends of the growing role of intangible assets in economic relations and the transformation of production systems of these countries. By the end of the 20th century the proportion of intangible assets in the structure of capital of European and American companies grew up to 50 %, in Japan it started to approach 60% [15, c. 103]. The EU countries are the leaders by the Knowledge Economy Index (KEI), developed by the World Bank to assess the ability of countries to create, receive and disseminate knowledge [19]. In the EU countries, expert research has shown that the companies, which use intellectual capital only partially, receive on average only 14% of contingent gain, those that use intellectual capital more actively, receive 39%, and the companies, which consider intellectual capital to be basis of their development, receive 61% of contingent gain. Even in the developed countries only 20-30% of investments in innovation are made by the state and most of them are related to government business. The remaining 70-80% is

the investment of private business, for which innovation is the means to survive in competition [26]. Therefore, the intensification of the theoretical and practical research of intellectual capital is one of the major tasks of modern economic science.

It is important to note, that there is no single, unambiguous definition of intellectual capital in the scientific community, as the multidimensionality of this notion, its conceptual fullness and the diversity of approaches do not let to work out the unambiguous definition. Nevertheless, at different historical stages of the study, specific aspects of intellectual capital were emphasized, which determined the dominating approach to the interpretation of this category.

Respectively, the majority of the existing definitions of intellectual capital can be considered from the viewpoint of several approaches. Having analysed the existing approaches (Table 1), the conclusion can be made, that the exaggerated emphasis to the resource approach does not allow to take full account of those aspects of intellectual capital which are considered by other approaches (synergetic, integrated).

TABLE 1 Approaches to the definition of intellectual capital

Approach	Content
Resource approach	Intellectual capital is studied from economic perspective, namely, capital as national wealth. This approach to the definition of intellectual capital is reflected in the work of researchers from different countries (T.Stewart, A.Brooking, L.Edwinsson. M.Malone, P.Sullivan, V.Belokon, I.Zlotnikov, F.Nikolaev). In the framework of this approach the researchers generalize human, structural, consumer, organizational, process, innovation and cultural capital in the concept of "intellectual capital". Herewith, in the framework of the resource approach the category of human capital did not exceed the status of "resource", which can be used in a company to gain advantage over competitors.
Synergetic approach	Intellectual capital is considered as the knowledge, skills and practical experience, which are implemented through the intellectual activity of persons; appear to be the form of intellectual, moral- and cultural-oriented skills in the creation of new, previously unknown knowledge, which provides intellectual rent and various competitive advantages. Unlike previous, this approach considers intellectual capital as national wealth only in the process of intellectualization of labour.
Integral approach	This approach involves the consideration of intellectual capital as the aggregate amount of knowledge of all the individuals of society, who ensure its competitiveness. Therefore, under this approach intellectual capital is viewed through the integrating complex of intellectual, creative, innovative and other abilities of all individuals, who are united in one or the other team, organisation, nation, but not as the sum of characteristics of individuals.

Note: Composed by the Author based on [14, 16].

To create conditions for innovative economic development it is essential to search for mechanisms of the attraction of perspective resource in the form of knowledge, infor-

mation, and intellectual potential. Intellectual capital was first studied by Drucker P. F. in his work "The Concept of the Corporation" on general issues of management [2].

Drucker P. introduced the concept of “knowledge worker” [3] as well as the more generalized concept of “knowledge society”. Drucker makes the conclusion that it is knowledge that becomes the main factor of production in the post-industrial society, and therefore the main task of management is the transformation of knowledge into a productive force of society and the improvement of production efficiency through the use of knowledge.

Later this topic was studied by John Kenneth Galbraith in his work “The New Industrial State” (1967) [17]. The concept was studied in the context of the growing role of knowledge-intensive industries in the modern economy of his time. Galbraith was the first scientist who used the term “intellectual capital” as something more than “pure intellect” and including “purposeful intellectual activity” of an individual. Thus, for the first time to describe knowledge the concept of capital was used, being the value, which generates profit or helps in the creation of other values. Anyway, knowledge and human intellect are the main and determining resource of the concepts of both Drucker and Galbraith. In the conditions of modern economy, on the growing global market and competition where technologies are continuously substituted by more advanced ones and products and services become obsolete within a short period of time, only those companies can be successful, which constantly create new knowledge, disseminate it in the entire organisation and rapidly implement this knowledge in new technologies and products. Intangible assets – information, new knowledge and objects of intellectual property, which constitute the intellectual capital of an individual, company or organisation, – are the most valuable ones for these companies. This is also attested by the fact that the proportion of new knowledge, which is

implemented in technologies, equipment and organisation of production in the economically developed countries, is responsible for 70-85% of GDP growth [18, p. 36].

Thomas A. Stewart, who is considered to be one of the most prominent scholars of the intellectual capital of an enterprise, defines this concept as the aggregate of knowledge which provides personnel’s competitiveness. The researcher notes, that intellectual capital is the intellectual material, which includes knowledge, experience, information, and intellectual property and participates in the creation of values. Intellectual capital is collective mental energy, including a company’s organizational structure, information technologies in use and its business reputation [12, p. 14]. Thus, intellectual capital not only ensures the competitive position of a company on the market, but also generates profit. This type of capital exists in the form of dynamic system of knowledge, and at the same time in the way of aggregate tools, which assist in the constant increase of aggregate knowledge. Intellectual capital is purposefully formed around a certain task, person or an enterprise.

A. Brooking [1, p. 37] points out that “intellectual capital” is the term for intangible assets, the components of which are human assets, intellectual property, infrastructure and market assets. B. Leontiev provides similar definition [25, p. 45]. He considers intellectual capital as the aggregate value of existing intellectual assets, including intellectual property, natural and acquired intellectual abilities and skills, as well as accumulated bases of knowledge. Regarding these definitions it should be noted that aggregated intellectual assets become intellectual capital only when they are used efficiently and generate profit.

TABLE 2 Definitions of intellectual capital

No.	Author	Definition
1	Butnik-Siverskij A.B. [14, p. 43]	Intellectual capital – knowledge and intellectual potential of an enterprise, which are the new criteria to determine a company’s competitiveness.
2	Virchenko V.V. [15]	Intellectual capital – the aggregate of the results of intellectual activity, which ensure the creation of new value due to advances in production, allow to increase the effectiveness of economic activity, gain additional profit and ensure competitive position on the market.
3	Grishnova E.A. [19]	Intellectual capital – the unity of structural capital, consumer (client) capital, qualification, professional skills of employees, and a company’s achievements in the field of effective organization of the work of personnel.
4	Duffy D.[21]	Intellectual capital – the body of knowledge, which is available to an organization through its employees, as well as in the form of methodologies, patents, architectures and communications.
5	Efremov V.S. [22]	Intellectual capital – knowledge that is available to an organization and expressed in clear, unambiguous codified form, allowing to share it.
6	Petrash G. [8]	Intellectual capital – aggregate knowledge of a company’s employees, the effective management of which allows to increase its profit.
7	Klein D. [6], Prusak L. [7]	Intellectual capital – intellectual material of an enterprise, which is formalized and fixed in its assets and ensures the increase of market value.
8	Meshcherjakova M.A. [14, p. 133]	Intellectual capital – the interrelation of a company’s brand strength, its relationships with partners and customers, as well as employees’ intellectual potential and relationships with the company’s partners and customers, which ensures the generation of additional value and company’s competitiveness on the market.
9	Swart J. [9]	Intellectual capital – tangible result of a company’s activities in the form of goods and services offered on the market, which embodies the unique individual and group knowledge and skills of its employees
10	Sudarsanam S. [10]	Intellectual capital – knowledge, which is represented in the form of a company’s assets and extremely enhances its competitiveness, generating added value for shareholders.
11	Tobin J. [13]	Intellectual capital – positive difference between market valuation and the book value of a company.
12	Toffler A. [27, p. 5]	Intellectual capital – intangible capital, which, unlike the traditional forms of capital, includes knowledge, is inexhaustible, available to the unlimited number of users simultaneously and exists in the form of information flows, symbols and electronic signals.
13	Fortune T. [28]	Intellectual capital – the body of employees’ knowledge, which creates a company’s competitive advantage on the market.
14	Chuhno A.A. [29, p. 282]	The structure of intellectual capital includes knowledge, which is inseparable from an individual, as well as specific conditions for the application of this knowledge in order to increase the competitiveness and effectiveness of a company. Intellectual capital accumulates scientific, professional and technical knowledge of workers, combines intellectual labour and intellectual property, and information networks – everything that defines a company’s reputation and ensures the formation of wealth of modern society.

Note: Composed by the Author

L. Edvinsson – practitioner in enterprise knowledge management, Board member of insurance company Scandia – worked out a report on the factors, which influence market value of companies and made the conclusion that intellectual capital plays the crucial role in this case. Together with M. Malone he published the work “Intellectual Capital: The Proven Way to Establish Your Company’s Real Value by Measuring Its Hidden Brain Power” [4], where it is pointed out that intellectual capital is the set of structural elements produced by human knowledge and determining the hidden sources of value, which are capable to endow companies with non-traditionally high price.

Nowadays intellectual capital has become an important object of scientific research. V.L. Inozemtsev [24, p. 132] defines intellectual capital as information and knowledge, which participate in production process. In his opinion, intellectual capital is a sui generis “collective brain” of an enterprise, which accumulates the scientific and everyday knowledge of workers, intellectual property and accumulated experience, communications and organizational structure, information networks and company’s image. B.B. Leontiev [25, p. 39] considers intellectual capital as the value of a company’s intellectual assets, which include the objects of intellectual property, natural and acquired abilities and skills, as well as accumulated bases of knowledge and beneficial relationship with other business entities – clients, marketing channels, long-term commercial agreements. Wherein the value of intellectual capital is determined by the effectiveness of its use in the production process, and its main function is to accelerate the growth of profit due to the formation and implementation

of the system of essential knowledge in order to ensure a company’s efficient economic activity. As the scientist notes, intellectual capital is the system of a company’s sustainable intellectual advantages on the market.

Let us consider some other definitions of intellectual capital proposed by scientists at different times (Table 2).

Thus, the analysis of authors’ approaches to the study of the essence of intellectual capital shows that the majority of scientists consider intellectual capital to be a company’s valuable intangible asset, which, when used efficiently, ensures competitive advantages and generates income. The specificity of intellectual capital is in the fact that its use leads to the creation of new intellectual products, carriers of added value, which are embodied in the new knowledge, skills, innovative consumer and production goods.

Critical analysis of the main theoretical approaches to the representation of the concept of intellectual capital allows to formulate the following definition: intellectual capital is the aggregate of human, structural, consumer, organizational, process, innovative and cultural qualities of society, which are acquired through learning, skills and experience, applied in intellectual activity by each member of society individually or collectively and increase work efficiency. Unlike the existing definitions, the one we offer not only considers all the key elements of the concept, but also provides the theoretical foundation for the research in this field. The efficient management of a company’s intellectual capital as well as the conceptual features and methodological problems of the evaluation of intellectual capital on micro level will be considered in the framework of further research.

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