THE ECONOMIC NATURE OF INTELLECTUAL CAPITAL

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The analysis of approaches to the definition of the essence and the nature of the intellectual capital was carried out. By the results of the analysis it was established that research on the intellectual capital used to base and is still basing on various approaches: resource, process, structural, terminological, functional. The economic content and value of the intellectual capital for an enterprise in the course of formation of additional cost was described. Despite its non-material form the intellectual capital is actively involved in production processes of an enterprise which creates additional benefits. It is explained by flexibility and high level of adjustment of the intellectual capital to environmental conditions. Besides, the problem of determination of the carrier of the intellectual capital in the context of effective management of processes of its emergence was considered. The quality of knowledge, skills and professional qualities of certain workers constantly changes under the influence of production need. It forms a steady understanding of the uniqueness of the intellectual capital as a highly productive resource. Moreover, latency of the intellectual capital and apriority of its existence at all enterprises turns it into a powerful production potential. Besides, attempts to consider this form of capital as a reserve for increasing the efficiency of functioning of industrial enterprises and their competitive advantages were made. The analysis of theoretical views of the essence and structure of the intellectual capital made it possible to define its most important components. Methodological bases of its formation and using it within an enterprise were defined.

Keywords: intellectual capital, efficiency increase, structure of the intellectual capital, human capital, client capital, added value.
Joining the world economy into a new formation causes the enhancement of the role of intellectual, intangible and information resources that are involved in the process of creating new added value with the extremely high cost effectiveness. Therefore, firms that are able to master these technologies in a proper manner increase their competitiveness, as these resources continue to expand and reproduce. Given this, there is a management problem of accumulation, and cooperation within the enterprise and the inclusion in the reproduction process. In this context, intellectual capital is an important element of the processing chain on both the micro- and macrolevel.

The current paradigm of intellectual capital management puts it in the category of one of the most important reserves of improving the efficiency of a company. Objectivity proved its nature, and therefore there is a need to find the best mechanisms for stimulating and using it in enterprises activity. The economic category of "intellectual capital" is non-uniform and its structure is quite contradictory, that is why we can see the actualization of scientific researches in this area.

The theoretical basis of the economic content of the intellectual capital were investigated by E. Brooking, D. Duffy, L. Edvinsson, J. McDonald, M. Malone et al. The issue of finding the best methods and tools of intellectual capital management in a company is reflected in the papers of such scientists as Y. V. Gava, N. L. Gavkalova, S. M. Ilyashenko, V. L. Inozetsev, O. M. Kendyukhov, K.-E. Sveby et al.

The purpose of this paper is to analyze the economic content and structure of intellectual capital in the context of using it as a reserve for enhancing the functioning of enterprises.

With the development of innovative processes, quality technical and technological transformation of production, reformation of industry there has appeared a significant need for scientific conceptualization of such type of capital as the intellectual one. Study of intellectual capital in this thesis aims not only to determine its nature, structure and characteristics. The main focus is concentrated on the mechanisms of using it effectively in a company and, therefore, on the ability to reproduce it in combination with other forms of equity capital. The assignment of intellectual capital to the category of capital is not discussed but there are some problem aspects. If we consider capital as a contribution that makes it possible to receive income, according to T. S. Becker [1, p. 154] and J. Minsera [2, p. 30], it is logical to attribute to it a contribution of the workforce as well. Actually, this approach was based on the concept of human capital. In other words intellectual capital is characterized by inherent properties of capital in general. These properties, in particular, include:

- being intangible. The intangible form of intellectual capital corresponds with the signs of the classical capital, whose origin also has a non-material nature;
- a possibility of valuation of intellectual capital. Today there are more than twenty-five methods for evaluating it, though some of them are extremely difficult to apply because they require consideration of the features of the intellectual capital that have not been previously covered by statistical records;
- intellectual capital exists only in certain social and economic conditions inherent in the market environment;
- intellectual capital as an ordinary capital is productive because it creates additional cost.

To prove that intellectual capital is indeed a kind of capital, and thus to demonstrate its economic content, we should examine its nature, origins and structure.

We should notice that the first use of the term "intellectual capital" took place in the works by J. Galbraith [3, p. 101]. Although its meaning was limited to the description of the intangible assets owned by individual employees of a corporation, but the ownership belongs to the corporation. The first attempts to define intellectual capital appeared in the 60s of the XX century in the neo-classical works. In particular, M. Friedman began to study intellectual capital, its genesis, specific traffic (circulation), highlighting the assets of a company as part of the so-called humanitarian capital and identifying some of its features in comparison with other components of equity of a firm [4, p. 220–223].

According to T. Stewart, intellectual capital is like a kind of collective brain, which accumulates scientific knowledge of workers, intellectual property and experience, communication and organizational structure, information networks and the image of a company. All these elements of intellectual capital are considered by T. Stewart as factors on which the additional cost creation depends [5, p. 392–400]. A. Toffler brings the concept of symbolic capital which includes knowledge, intellectual capacity and assets of a company in the intangible form. Unlike traditional forms of capital, it is intangible and infinitely available for numerous consumers [6, p. 5].

T. Fortune believed the intellectual factors of production to be a pool of all the employer's knowledge, that gives the company competitive advantage in the market [7]. Instead L. Prusak highlights a "smart material enterprise," which is embodied in its assets in the accumulation and synthesis of knowledge [8].

As E. M. Tarasova remarked, the concept of human capital was limited to analysis of the knowledge embodied in a per-
son who contributed to the creative activity in the creation of new knowledge. But evolving under the influence of economic conditions of market relations there was a need to require a study of the process of scientific knowledge accumulation, that turns in new technologies, production techniques, software, etc. [9]. Thus, it can be seen that in less than 50 years' study of intellectual capital, a large number of viewpoints regarding the investigation of its economic substance and objective form, have been formed so it makes sense to arrange the most significant definitions in a table (Table 1).

**Table 1**

<table>
<thead>
<tr>
<th>Morphological analysis of the definitions of intellectual capital</th>
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<td><strong>The authors</strong></td>
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<tr>
<td>1</td>
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<tr>
<td>L. Evinsson and M. Malone [10]</td>
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<td>D. Duffy [11]</td>
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<td>B. Leontev [12]</td>
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<td>E. Brooking [13]</td>
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<td>L. Melnik, V. A. Kasyanenko [14]</td>
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<td>V. N. Golubkin [15]</td>
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<td>Ruus J., S. Pike, L. Fernstrom [16]</td>
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<tr>
<td>A. L. Gaponenko, T. N. Orlova [17]</td>
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<td>B. Z. Milner [18]</td>
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</table>

Analyzing the content of the above points of view regarding the nature and economic substance of intellectual capital, and given the need to provide proper identification to reflect the uniqueness of this economic phenomenon and, at the same time incorporate the most advanced theoretical and methodological bases for its conceptualization, it is useful to formulate some summarizing thesis. For the first, there is a clear understanding of the evolution of intellectual capital from a simple activity (intellectual) to the end of an asset that is worthwhile determining its structure and characteristics.

For the second, some scientists such as: E. Brooking [13], D. Duffy [11], V. N. Golubkin [15] and others considering the intellectual capital, who contributed to the creative activity in the creation of new value, do not indicate a clear connection between it and intellectual potential of a company. In other words, the researchers did not give intellectual capital flexibility, capacity for growth, self-reproduction to performance. Through the bound between the intellectual capital with intellectual potential, the role of the intellectual capital in the processes of innovative development is traced. Therefore, the intellectual capital is a result of the active use of the intellectual potential (a set of intellectual resources) in the innovative activity of an enterprise for achievement of the objectives of its innovative development [24, p. 61].

For the third, the vast majority of researchers consider intellectual capital in the light of individual characteristics of staff members, thus personifying its belonging to specific individuals. This significantly distinguishes it from social capital that can be formed only in a social group, and therefore, at no individual level. However, it should be understood that the owners of intellectual capital are the workers, but the ownership of the results of its reproducing belongs to the enterprise.

For the fourth, the influence of intellectual capital on the economic efficiency and competitive advantages of a company is shown rather weakly. Defining intellectual capital in the context of opportunities for enterprise development, researchers are losing one of its key features – performance. But, in fact, the current level of skills of the local management, in contrast to the West, is an obstacle to the potential of intellectual capital.

For the fifth, some scientists do not see relationship between intellectual capital and innovative development of a company. The authors also believe that the latter is a direct consequence of the productive use of intellectual capital, which is in the interaction with social capital. In view of this, further research will be built based on the innovative orientation of both forms of capital.

For the sixth, in some scientific approaches to the concept of the intellectual capital the phenomenon of goodwill is identified. The immaterial nature of these both economic assets promoted the emergence of the point of view concerning transformation of intellectual potential of an enterprise in a new quality – goodwill [25]. Actually goodwill is a reaction of contractors, elements of the market infrastructure and business partners of an enterprise, to its opportunity to generate an intellectual headband and productively use it.

For the seventh, the intellectual capital is considered first of all and mainly as an intangible asset while its completely material components in the form of new industrial samples, new technologies and so on form a new cost or increase the existing level of capitalization of an enterprise. Besides, the intellectual capital is connected with the specific subject of the economic relations that takes part in its capitalization.

Thus, we can conclude that among these approaches the following are most clearly highlighted:

- the resource approach, within which intellectual capital acts as an objective resource for any entity that is in a static state until it affects a certain stimulus, then this resource will change shape;
- the structural approach, which considers intellectual capital in the context of productive mental activity of personnel, resulting in a qualitative transformation of knowledge;
- the process approach, in which the sharing of human and other capital formation makes it possible to use hidden sources of value that increase, in turn, the cost of enterprises in the market;
- the terminological approach that makes it possible to consider intellectual capital as an economic category. For example, according to some interpretations of the
intellectual capital, resources are only those business structures that can form a new value or impact on the revenue growth (in terms of the resource component); • the functional approach, which determines clear boundaries of intellectual capital, including staff knowledge of business structures that affect the emergence of competitive advantage and can create new value. This interpretation of the functional approach eventually transformed, when it began to be taken into account using the basic functions of intellectual capital.

The intellectual capital and intangible assets objectively exist in one economic plane, therefore their ratio and level of submission is a key to definition of mechanisms of management of both.

The intellectual capital is shown in many forms. Except knowledge, skills, that social, human and intellectual capital is the personification of personnel the intellectual capital can have a completely material form. Thus the intellectual capital nevertheless should be considered as a component of intangible assets. This results from the fact that it meets the demand to intangible assets: it is used in production or for administrative requirements of an enterprise and promotes creation of additional cost.

Sometimes the intellectual capital is characterized as an “impersonal” or “implicit” economic asset. This directly identifies it with intangible assets which have the same “implicit” nature. The reason for this is the fact that it is difficult to define the limits of useful knowledge of a certain worker from the point of view of using it in the course of production. The quality of this knowledge, the efficiency of application, a possibility of generation of new knowledge in the course of exchange of information – all this isn’t subject to unambiguous measurement. Neither can it be described in value terms. But when this knowledge, being used in production, creates a new additional cost of a final product through investment with its new competitive advantages, then it is possible to speak about an assessment or cost of the intellectual capital. In other words this type of capital is latent for any enterprise but reveals itself only in the course of production. Sometimes intellectual capital can significantly increase the level of capitalization of an enterprise as a result of being used in the processes of company reorganization. However similar cases are rare.

Most successfully it can develop in the process of creating new products and organizational and strategic initiatives to develop a new niche for product markets. Actually because of the intangible nature of intellectual capital researchers associated it with an innovative approach to the manufacturing process. A somewhat different view is held by US researchers D. Norton and R. Kaplan, who define intangible assets as a main source of creation of value and divide them into three components: human capital (skills, talent, knowledge); information assets (databases, information systems, networks and technologies); organizational capital (culture, leadership, appropriate personnel, teamwork, knowledge management) [26].

Their concept is structured in such a way that somehow intangible assets should be measured and appraised, but they refer such estimates solely to a product that appears in the use of enterprise intangible assets.

Instead O. Kudrko in his research came to an understanding that intellectual capital of the intangible potential of a company. It is potential because it is productive, and therefore, able to add value, but only in the case of managerial influence on it [27, p. 54–38].

Thus, we propose the intangible nature of intellectual capital, its capacity for productivity and a high economic potential in addressing innovative development of a company in terms of a synergistic effect of using it and the use of other forms of the available capital. But to understand the essence of the mechanisms of formation and development of intellectual capital it is necessary to analyze its structure (Table 2).

Table 2

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Structural elements</th>
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<tbody>
<tr>
<td>L. Edvinsson [10]</td>
<td>human capital, structural capital</td>
</tr>
<tr>
<td>J. Ruus, S. Pike, L. Fernstrom [16]</td>
<td>human capital, intellectual property, marketing assets</td>
</tr>
<tr>
<td>E. Brooking [13]</td>
<td>asset market, intellectual property assets, infrastructure assets, human assets</td>
</tr>
<tr>
<td>V. L. Inozemtsev [21]</td>
<td>human capital and intellectual resources, intellectual property</td>
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<tr>
<td>Y. Gava [20]</td>
<td>human capital, technological capital</td>
</tr>
<tr>
<td>N. L. Gavkalova [19]</td>
<td>personal capital, technological capital, customer capital, social capital</td>
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<tr>
<td>J. Galbraith [3]</td>
<td>intellect, intellectual activities</td>
</tr>
<tr>
<td>P. Sullivan [28]</td>
<td>layers of knowledge workers that can be used exclusively for competitive advantage</td>
</tr>
<tr>
<td>B. Leontev [12]</td>
<td>rights to the results of human creativity, natural heritage and intellectual abilities and skills, accumulated knowledge base in the mid-enterprise relations</td>
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</table>

Based on the above, it is appropriate to draw the following conclusions:

• when formulating the definition of intellectual capital, the vast majority of scientists especially focus on its determinate structure, that is the nature of intellectual capital because they describe the properties inherent in its individual components, while ignoring the economic effect of a synergistic combination thereof;

• despite many definitions and variations in the structural elements of intellectual capital, they emphasize its heterogeneity. Moreover, researchers distinguish different components of intellectual capital;

• the basic components of intellectual capital are: human capital (competency characteristics of employees); organizational capital and consumer capital (the potential of company counterparters, company, interface capital).

Its carrier is important for the process of the effective use of the intellectual capital. Management of the intellectual capital formation and development is possible in the case when the object and subject are accurately defined. The relations which are established between them create qualitatively new conditions under which the intellectual capital passes all the stages of its own capitalization. But there is a problem of accurate definition of the subordinated object of management.

Proceeding from the nature of the intellectual capital it becomes completely clear that its carrier is a specific person, a worker, a member of a collective. His knowledge is formed in the course of its activity and personal development. But being under conditions of a concrete firm he is influenced by the factors of the firm internal environment. That is the intellectual potential of such a worker starts being transformed under the influence of factors which don’t depend on him.

In such a way qualitatively new knowledge emerges which directly influences production, increases competitive advantage, of both the enterprise and separate types of its production. Therefore, the worker remains the carrier of the intellectual capital, but in a concrete timepoint when there is creation of new qualities, there is also transference of the intellectual capital from the level of a specific performer to the level of the enterprise.

The property right to this capital and the results of its efficiency as well as the new added value will belong to the enterprise.

Thus, this knowledge, as well as work (a set of competencies) of a person are factors that shape his competitive edge as an employee. Hence they are inalienable. The enterprise, in turn, is the owner of the intellectual capital in the case if it is provided by relevant agreements, but most companies are owners of the intellectual capital in the form of patented technologies, and other
accountable intangible assets [20]. So the intellectual capital is reflected in intangible assets and intellectual property.

The human capital is a result of a certain potential accumulated by a worker which manifests through knowledge, skills and abilities, and is used in the follow-up activity of the person, exactly in the course of performance of his direct professional duties. The client capital is created in the course of interaction of the enterprise with its own market environment. Human, organizational and client capital rather closely interact with each other in the course of creation of additional cost.

At the same time all of them are components of the intellectual capital. Among the features of the intellectual capital the most important place is taken by its ability to generate new qualitative products and create a new innovative product. This process also gives a chance to say that the intellectual capital creates a new value added as new knowledge, ideas, technological decisions which significantly increase the competitive advantage of the final product.

These advantages in turn form its market value. It should be noted that the role of the intellectual capital process of economic activity of a subject of housekeeping constantly grows and extends without exception to all of the enterprises which produce innovative products. Therefore, that innovative nature of enterprise products demands continuous updating of the intellectual capital, attracting it to productive processes in order to gain new knowledge.

Technologically this process is rather difficult, but in practice updating, replenishment and high-quality transformation of the intellectual capital significantly increases its productive potential. In the end result it influences the cost of the industrial output which is made through attracting it.

Thus, the specificity of the nature of intellectual capital provides its heterogeneity, the ability to manifest itself in various forms and types. Hence, the different effect of its involvement in the process. If the structural elements of intellectual capital can be clearly distinguished and recognized within an enterprise, it is possible to say that the intellectual capital is close to the value of determination, moving with the registered company. If it is difficult to define and identify, it can mean either being intellectual capital in its formative stages, or inefficiency of management for its detection and management.

It should be noted that, taking into account the intangible intellectual and social capital, as well as their derivative nature of personnel as of its individual representatives and their population as a whole, we conclude that the set of mechanisms and instruments to encourage the development of both forms of capital: their determination and control in favor of the company in both cases is similar, but not the same. Identity management is conditioned by the similarity of the subjects in one and the other case, the internal network staff. However, it should be noted that in the case of intellectual capital it may have an external to the enterprise instrument, revealed through customer capital, and therefore management instruments will have a certain specialization.

The immaterial character of separate components of the intellectual capital shows possibility of its fast adaptation to environment conditions. It shows the potential of the intellectual capital to produce an additional cost through change of qualitative parameters of this or that product, in other words, transformation of the intellectual capital accumulation or replacement of the existing knowledge with the new one. This process has an economic ground as carriers of the intellectual capital are concrete persons. And consequently in the course of receiving new knowledge they increase their own competitive advantages. The same occurs in the scope of the enterprise. But the difference is that the enterprise investing in the intellectual capital directs these investments not to itself but to each specific worker. Thus, the economic benefit is aprioristic, but profitability of these investments will not be shown at the personal level any more, but at the level of the enterprise in general.

This thesis demonstrates two predictive aspects of intellectual capital. First, because it objectively exists and is inherent in any collective (social) and individual entity or enterprise as a whole (intellectual), the investments may have an extremely low cost. Although in this case return may be low, but it is never negative. Second, the performance of intellectual capital is unpredictable and measured, and therefore when determining the value of the product of operation of this type of capital one can account for the improvement in the lives of workers only when the product enters into a particular implementation. Here lies one of the problems of managing the processes of formation and development of intellectual capital: minimizing the cost of legitimizing the results of its capitalization.

These costs are unpredictable, so sometimes the company accounts for them particularly in the form of investment in intellectual capital, which again leads to a reduction of using it. Another extremely important issue of management of domestic industry lies in the use of correct methodology for assessing intellectual capacity to determine the reasonable value of its investment in the discovery and commercialization. These observations confirm the characteristic nature of intellectual capital, its polystructure and specificity of capitalization.

Summing up the results of the analysis of the essence of the category "intellectual capital", the authors come to need to offer their own definition which would cover all the features specified by them. Therefore, the intellectual capital is a set of individual competences of workers (knowledge, skills, abilities, and so forth), intellectual potential of an enterprise, in the form of the organizational and client capitals, as well as previously accumulated results of its capitalization which has a certain cost is capable to provide needs of an enterprise for activating innovative activity, the economic growth and increase of competitive positions. Having formulated the definition of the intellectual capital, the authors have analyzed its structure, and outlined the problems of administrative provision of the process of its development and capitalization. The authors have come to the need of determination of factors which influence the process of its formation. Thus, the definition of the economic substance of the concept of the intellectual capital made it possible to establish its polystructure and heterogeneity in the course of formation and development. The authors found out that the intellectual capital unlike the financial capital is unavailable at the stage of creation of an enterprise and consequently, it is generated by it only in the course of economic activity. It is a certain aggregated product of intellectual resources and intellectual potential used at an enterprise whose carriers are its workers and consequently it directly depends on investments into the development of the personnel.


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Га ва // Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки // Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки // Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки // Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Науково-технічна інформація і матеріали з питань інноваційної економіки; Наукovo-technicna informatsiya –
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