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Model for Assessing the Human Capital of an Enterprise

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Abstract. Economic development in modern conditions has acquired a pronounced humanistic orientation. In this regard, human capital is seen as a key factor in production and social well-being. The analysis of human capital is traditionally carried out at the macro level of the economic system. At the micro level, it is studied to a lesser extent.

The purpose of the study is to form a model for assessing the human capital of an enterprise, consistent with the methods of assessing the value of the enterprise.

The methodical basis of the research is the systematization of the publications of Russian and foreign economists on the problems of human capital, human potential, labor potential with its connection of assessing the value of the enterprise.

The results of the research are the systematization of approaches to assessing the value of enterprise's human capital, the classification of its types (investment, operational, basic) and working out the model for assessing the human capital of an enterprise as a part of its value.

Practical significance of the results: recommendations were developed to increase the value of the enterprise based on the management of its human capital. This ensures balanced social and economic development at the micro level of the economy.

1. Introduction

At present, terms such as "human capital" and "human potential" are increasingly included in economic practice. Issues related to the definition of these concepts, their identity, the structural components of each concept, the frequency of use and the methods of evaluation remain controversial. It is known that the human resource plays an important role, both in the development of a single enterprise, and in the development of the entire country. At the same time, a review of economic literature shows that often researchers do not draw a clear terminological boundary between the concepts of "human capital" and "human potential". Given the emergence of additional types and components of capital, such as, for example, intellectual capital, labor capital, network capital, etc. it becomes increasingly difficult to separate these concepts from each other.

The definition and evaluation of the concepts of "human potential" and "human capital" should be based on the essential content features of these terms that are manifested in the process of the economic agents' activities.



2. The economic essence of the human capital of commercial enterprises

In the UN report "About Human Development for 1990", the first goal was to increase the level of human potential as the ultimate goal of the progress of man and the world community as a whole. In this respect, human potential and human capital are, on the one hand, a result, and on the other hand a necessary condition for the development of society. The most clear and unambiguous definition is now given to human potential at the state level.

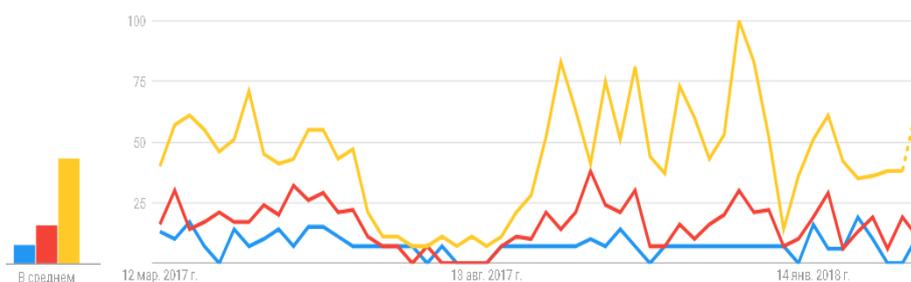
For the first time, human capital, as an economic category requiring a separate study, specific methods of evaluation and management, began to be discussed in the middle of the 20th century. Becker [1], L. Thurow [2], E. Felmholtz [3] for the first time formulated the essence and goals of the evaluation of human capital. At the same time, human capital must be distinguished from human potential.

Consider the difference between human potential and human capital. To consider the essence of these categories, in our opinion, is most appropriate at the enterprise level, as a separate economic entity operating in the market and using the resources of commodity, labor and capital markets. As a rule, human potential means a set of qualities of a person, which he can use in his activity [1]. Let us note that, in accordance with modern views, human potential can be used not only within the framework of economic activity, but also much broader, reflecting the entire range of interactions of the individual with the surrounding society [4].

From this point of view, human capital is only one form of manifestation or a certain part of human potential. Human capital can be presented as a current as well as a potential future income stream of the enterprise, due to investing in the acquisition and development of important for the enterprise professional qualities of an individual [5].

We have studied the dynamics of the popularity of concepts "human potential", "labor potential" and "human capital" over the past year (see Fig. 1) in the Google search network.

As we can see from Figure 1, the most commonly used term for the last year is the term "human capital" (44 requests per day), its average value is more than 2.5 times higher than the value of the concept "labor potential" (16 requests per day) and more than 5 times the value of the concept "human potential" (8 requests per day). This again confirms the different attitude of respondents to these terms and emphasizes the existing difference between them, which manifests itself both in the definition and in the methods of evaluation, and in the purpose of applying these estimates.



Blue line – human potential; Yellow line – human capital; Red line – labor potential.

Figure 1. The dynamics of the popularity of concepts "human potential", "labor potential" and "human capital" over the past 12 months [10].

One of the most important problems associated with the definition and use of the concepts "human potential" and "human capital" in the activities of various economic entities is their assessment. The main feature of these concepts is that they can be defined at different levels - individual level, the level of microeconomic systems, for example enterprises, and at the level of macroeconomic systems - states, regions and the whole world. This feature has also determined the variety of approaches to their evaluation.

In our opinion, in principle, human potential cannot be expressed only in value terms. Moreover, according to many researchers, human potential cannot be reduced to numerical indicators in general.

This is due to its versatility or multidimensionality. As a result, in order to assess the human potential, the methods of coefficient or index estimation are usually applied, which allow to displace the heterogeneous aspects of this socio-economic essence into one indicator. In addition, an approach based on an indirect assessment of human potential is often used, which consists of evaluating the conditions that enable the realization of human potential.

According to the researchers who suggest this approach, the existence of conditions for the realization of the multifaceted elements of human potential is no less important element in its implementation, which ultimately manifests itself in the form of socio-economic progress. This index approach is also followed by the developers of the corresponding human development index, or until 2013, the Human Potential Development Index, which measures such indicators as the standard of living, education, literacy, longevity, and other indicators.

Currently (according to data for 2016) [11], countries with a very high level of human development include 49 countries (the HDI range ranges from 0.944 to 0.802). Leaders are the developed countries of Europe such as Norway, Australia, Switzerland, Denmark, the Netherlands (the HDI range ranges from 0.944 to 0.922). As is known, in these countries the spheres of services and innovations are the most successful, what undoubtedly implies the high involvement of a person in the production process, takes into account his personal qualities, intellectual and creative abilities. Russia occupies the 50th place in the rating with the HDI index of 0.798 and is included in the category of countries with a high level of human development on a par with countries such as Belarus, Romania, Kazakhstan, Bulgaria, Serbia, Cuba, etc. - only 55 countries.

Discussing the human potential, it should be noted that in the concept of potential, the potential capacity of any action that can manifest itself in a variety of conditions is laid. In addition, in this respect, researchers do not pay attention to the fact that the potential can be considered as the ability to adapt the individual, social micro groups and society as a whole to the changed conditions. This aspect, in our opinion, has so far received insufficient attention.

3. Approaches to assessing the human capital of an enterprise

Equally important today is the problem of assessing human capital. G. Becker believes that human capital is part of capital, which is an integral part of man and is a source of future income and benefits [1]. In our opinion, the approach connected with the evaluation of human capital through knowledge, skills and other socio-and economically important qualities of the employee is not sufficiently correct. These categories refer primarily to the term potential. However, the availability of the possibility of using them to create a certain level of income or increase the value of the enterprise translates it into the concept of capital.

Consequently, human capital is not just knowledge, skills and competences, but the knowledge, skills and habits that are used or will be used in the future to generate enterprise income. At the same time, it is important to note that there is no direct relationship between investments in education and the return on these investments. General cultural features, the economic and organizational culture in the enterprise, as well as the characteristics of the worker or individual on the ability to use effectively the acquired knowledge in the process of the enterprise will play important role.

The next important feature of these categories, which must be taken into account in the assessment, is emergence, irreducibility of properties to their total sum.

Human capital is a capitalized (converted into value) current and future value of the capabilities of the enterprise's personnel useful for a given enterprise and its technological and economic process embodied in the skill and skill of employees and expressed in the magnitude of the current and future earnings of the enterprise or the amount of their excess over average market level.

The purpose of assessing human capital includes the following aspects:

- providing information necessary for making decisions on personnel management, for management and personnel managers;
- to provide interested persons with methods of measuring and managing human capital;

– talk about human resources, as about the assets, parameters and quality of which can and should be managed.

Modern researchers classify all methods of assessing human capital for the following groups:

1. Natural methods that involve estimating the value of human capital through the level of education of personnel.

2. Cost models that take into account the original cost, the cost of acquisition, replacement, and alternative costs for human assets

3. Monetary models, which are based on the assessment of future income from investments in the qualifications and abilities of staff.

4. Models of assessing the value of human capital, implying a combination of monetary approaches with non-monetary aspects of employee behavior.

Despite a significant variety of evaluation methods, in our opinion, none of the methods gives a complete assessment of the quality of human capital management. This is because the methods considered take into account human capital either on a cost basis only, taking into account various adjustments, or based on additional income in the form of cash flow or benefit.

4. Approach to the valuation of human capital based on a multilevel enterprise value model

From our point of view, the value of human capital can be estimated taking into account the following considerations. Evaluation should be based on the cost determined for the individual worker. For trade enterprises, this method can be implemented most simply because the structure, as well as the staff positions for most enterprises are similar.

The estimation of the value of the enterprise human capital must proceed from the principle that an enterprise is a microeconomic system whose main goal is a sustainable progressive development consisting in maintaining, for an unlimited time interval, the ability to ensure a return not lower than required by the implementation of statutory activities. It follows that the human capital of the enterprise should be evaluated not only for the current contribution, but also for the contribution to the future growth of the value of the enterprise

When assessing value, it is necessary to take into account the variability of both external and internal factors related to the enterprise's activities. It is necessary to take into account the change in the conjuncture, which in turn affects the state of the labor market, the level of the personnel offer, the level of pay for individual vacancies, etc.

Taking into account the development of modern approaches to the cost management of enterprise activity and development [Pirogova], the problem of the integrated measurement of the human capital of an enterprise should be solved on the basis of an assessment of its role in shaping the market value and competitive advantages of the enterprise (through financial and comparative valuation methods).

It should be taken into account that at the enterprise at every moment there is an optimal number of employees and managers who create the maximum value in the given conditions. Deviation from this value, both in the large and in the smaller side, will lead to a deterioration in the efficiency of the personnel use and, as a consequence, to a decrease in the quality of human capital.

Taking into account the features discussed above, it is offered to estimate the cost of personnel as the sum of two components - the current component, which is the income that is generated by the enterprise personnel as a result of the current implementation of the statutory activities of the enterprise, as well as the future component – investment one, which ensures the company's income stream in future. Schematically, the structure of human capital in accordance with this approach is presented in Fig. 2

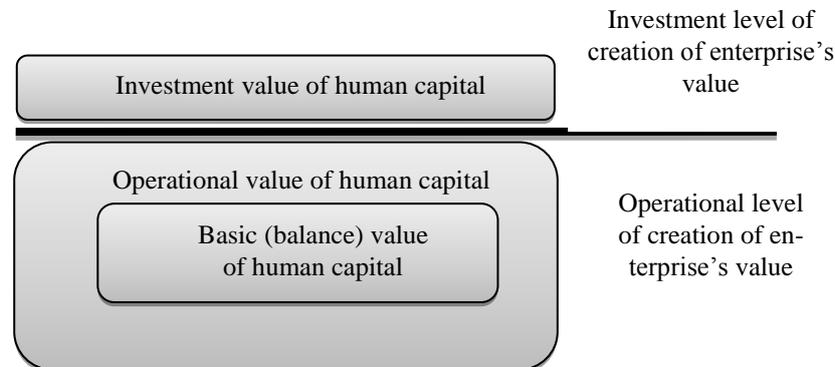


Figure 2. The scheme of formation of the value model of human capital.

The current component of value also has a complex structure. It includes the basic or accounting value of the staff, which can be estimated, based on the cost of substitution, as the most likely or average market in comparison with the closest competitors' wages of an employee replacing a certain position. The second component of the cost is operational, which includes an assessment of the contribution of each employee to the current activity of the enterprise. It is important to note here that the company's personnel are recruited primarily based on the needs of the operating activities. This component should include additional costs of the enterprise for individual bonuses to employees.

To the costs of personnel, it is necessary to add the costs of finding and hiring an equivalent replacement, as well as losses during the period of its adaptation. The total value of the operating cost can be determined based on the Ya. Fitsentz's approach, which connects human capital with the added economic value [6].

Calculation formula:

$$\text{Added value of human capital} = \frac{\text{Profit} - (\text{Expenses} - \text{Salaries} + \text{Benefits})}{\text{Equivalent to full employment}}. \quad (1)$$

The formula includes, as financial indicators (profit from human capital, expenditure on human capital, added value of human capital, market value of human capital), and human indicators such as the percentage of employees with a standardized working day, the percentage of unstable labor, the labor force growth rate, the total percentage of profits from all labor costs, investments in the development of employees.

The investment cost is fundamentally different from the cost of personnel, which is expected to be estimated, for example, based on the dynamics of the personnel cost for 3, 5, 10 and 25 years in accordance with the approach of the prospective value of human capital, and also differs from the stochastic positional model of estimating the human capital value. From our point of view, this investment value of human capital should be part of the future income that is generated by the personnel of the enterprise; it can be estimated as the discounted cost of personnel costs in the future, less the cost of retraining of personnel (or the cost of recruiting a similar one on the labor market).

$$V_{HC} = V_{HCO} + V_{HCI} = V_{HCB} + V_{HCO} + V_{HCI}, \quad (2)$$

where V_{HC} – human capital value; V_{HCB} –balance component of the human capital value; V_{HCO} – operational component of the human capital value; V_{HCI} –investment component of the human capital value;

In addition to assessing the current values of human capital, it is equally important to control the examined rate of change of human capital components, which can be compared with other performance indicators. At the same time, the golden rule of the economy must be fulfilled:

$$R_g > R_{HC} > R_R, \quad (3)$$

or in a more detailed form, taking into account the structure of human capital:

$$R_g > R_{HCI} > R_{HCO} > R_{HCB} > R_R, \quad (4)$$

where TP – rate of profit growth of the enterprise; R_{HC} – the rate of growth in the human capital value; R_{HCB} – the growth rate of the balance component of the human capital value; R_{HCO} – the growth rate of the operational component of the human capital value; R_{HCI} – the growth rate of the investment component of the human capital value.

Only in this case it is possible to achieve not only quantitative, but also qualitative growth of human capital.

5. Conclusions

The terms "human capital" and "human potential" are considered in the article, and it is shown that the issues related to the definition of these concepts, their identity, the structural components of each concept, the frequency of use and the methods of evaluation remain controversial and relevant today. The approach to the estimation of the personnel cost of a trading enterprise as a sum of two components is offered - the current component, which represents the income that is formed by the personnel of the enterprise as a result of the current implementation of the statutory activities of the enterprise, as well as the future component – investment one, which provides the company's income stream in the future. This approach takes into account the industry peculiarity of the formation of the human capital value, an individual approach to the assessment of personnel, as well as quantitative and qualitative reserves of its growth.

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