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THE FORMATION AND ACCUMULATION OF HUMAN CAPITAL IN THE RESOURCE SUPPORT OF SUSTAINABLE DEVELOPMENT OF HYBRID ORGANIZATION

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Abstract: With the transition to the era of the knowledge economy, the concept of "human capital" began to be introduced into the management of modern organizations. This allowed the ideas of managing and accumulating human capital of the enterprise to undergo significant changes. Organizations are gradually turning human resources management into human capital management. The problem of increasing the efficiency of use of human capital of an enterprise requires the availability of appropriate methodological tools for assessing the level of development of human capital of an organization, as well as its impact on the main results of economic activity. The most common method for assessing human capital is the method of calculating direct personnel costs; in the study, this method was integrated with the index method, which is mainly based on the aggregate human capital index and indices of its components. The authors suggest the frequency of transition of human resources to human capital and the direction of resource provision of the stages of formation and accumulation of human capital.

Keywords: human capital; human resources; organization development; hybrid business management; methods for assessing the value of human capital; investment in the human capital of the organization in the post-industrial era; resource provision of the organization's human capital formation, stages of human capital accumulation.

INTRODUCTION

Since 1960, when Schulz put forward the theory of human capital management in his work "Investing in Human Capital," the study of the theory of human capital has been constantly growing. As early as 1676, the founder of British classical political economy, William Petty, compared weapons and other material losses with casualties. Such a comparison is regarded as the first sprout of human capital thought. In Political Arithmetic, Petty calculated the comparative value of different professions: "The sailor is actually equal to the 3rd peasants." He argued that the wealth of society depends on the type of occupation of people and their ability to work (5).

Adam Smith, in his study, A Study on the Nature and Causes of the Wealth of Nations, stated, "Fixed capital, which is characterized by the fact that it brings income or profit, consists not only of material capital, but of acquired and useful abilities of all residents or members of society" (Adam Smith). He believes that the costs of training and investing in tangible capital are all profitable. The difference is that the cost of training is an investment in human capital, which is characterized by the development of knowledge and the use of potential intellectual resources.

In 1960, Theodore William Schultz, an American economist, delivered a speech entitled "Investing in Human Capital," introducing the concept of human capital for the first time. According to T. Schulz, "it allows us to begin the sequential division of whole capital into two parts, namely: human capital and non-human capital" (www.south-insight.com). Human capital as a combination of qualities, skills, abilities and knowledge of a person used by him for production (for income) or consumer purposes. This capital is called human, because it is embodied in the personality of a person; it is capital because it serves as a source of either future income, or future consumption, or both.

RESOURCE PROVISION

In modern conditions, traditional forms of organization of enterprises have undergone transference from the sources of obtaining the necessary resources. There are two traditional ways of obtaining resources: Through contracts with consumers and payment by them of the results of their activities; By obtaining funding from state, government, regional, public facilities in one form or another in material form. The new "hybrid" forms of organization under these conditions have adapted to optimally combine both forms of obtaining the resources necessary for their economic activity. In the economic literature, they are called ESO (Environment-serving organization, ESO /Organization serving the needs of the environment) (8).

The development of science and technology, the concept of "wealth = knowledge" was adopted by most countries of the post-industrial period of development of the world economy. In the era of the knowledge economy, competencies and knowledge become the main factor in production. Technology, management and individual intelligence begin to play an important role in the process of creating enterprise assets. As a carrier of knowledge, skills and abilities, a person has certainly become a key factor in the development of an enterprise. Compared with the traditional method of management - human use, human capital management consists in investing in a person. The concept of "investment" in a person does not mean obtaining immediate benefits, but rather obtaining results in the future, thanks to his acquired capabilities and knowledge (8). Therefore, the essence of human capital management lies in investing in

a person and turning human resources into human capital.

The concept of human capital can also be interpreted as a special capital in the form of intellectual abilities and practical skills acquired in the process of education and human activities. This interpretation indicates the fact that the presence of human capital means the ability of people to participate in production. The resource provision of the organization's human capital formation is presented in Figure 1.

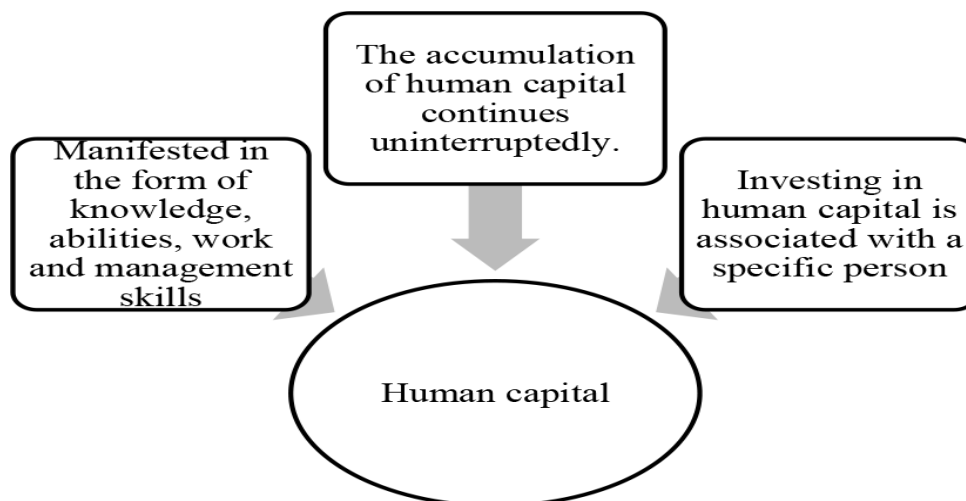


Figure. 1. Resource provision of the formation and accumulation of human capital.

Domestic researchers of the problems of human capital, S.A. Dyatlova, R.I. Kapelyushnikova, M.M. Cretan, S.A. Kurgan and others. R.I. Kapelyushnikov, considering human capital in his work "Transformation of Human Capital in Russian Society", presents a comprehensive picture of how the quantitative and qualitative characteristics of human capital have changed. The author's research is aimed at improving the awareness of Russian society about the evolution, current state and possible trajectories of further development of Russian human capital.

METHODS AND ANALYSIS OF THE EFFECTIVENESS OF HUMAN CAPITAL ASSESSMENT

When analyzing the category of human capital, it became necessary to develop a quantitative assessment of human capital. A correct assessment of human capital provides an objective assessment of all the assets of the company and the welfare of society. We study the most common methods for assessing the value of a company's human capital:

1. The method of calculating direct staff costs. The easiest way for company managers to calculate the total economic costs incurred by the company for their staff, including the assessment of staff costs, taxes associated with this, the protection and improvement of working conditions, the costs of training and continuing education. The advantage of this method is simplicity. Disadvantages - incomplete assessment of the real value of human capital. Part of it may simply not be used in the enterprise.

2. The method of competitive assessment of the value of human capital. This method is based on the sum of the estimated costs and potential damage caused to the company with the possible departure of the employee: total costs for personnel made by

a leading competitor (taking into account comparable production capacities); individual bonuses to each employee of the company (obtained based on qualified expert evaluations) that a competing company could pay for its transfer to them; economic damage that the company will incur during the period of finding a replacement, reducing the volume of products or services, the cost of training a new employee, the deterioration of product quality when replacing a new employee; loss of unique intellectual products, skills, potential that an employee will take with him to a competitor's company; the possibility of losing part of the market, increasing the sales of a competitor and strengthening its influence on the market (<http://odiplom.ru>).

The American economist G. Becker suggests treating each person as a combination of one unit of simple labor and a certain amount of human capital embodied in it. Consequently, the wages received by any employee can also be considered as a combination of the market price of his "flesh" and rental income from human capital invested in this "flesh". The assessment of human capital in the framework of this approach is presented in formula 1.

$$V_a = \sum_{t=a}^n (B - C) \times (1 + i)^t, \quad (1)$$

Where V_a - is the assessment of the employee's human capital, considering age; B - total salary; C - part of wages per labor; n - the age at which the active labor activity of a person ends; i - the interest rate. There are interests of the studies of the American economist Fitz-Enz Yak (Makarov, 2015). He connects human capital with added economic value in formula 2, considering the standard indicator of sales per employee not only simplified, but also outdated.

$$HEVA = \frac{EVA}{FTE}, \quad (2)$$

Where HEVA - Added human economic value; EVA - Added Economic Value; FTE - Equivalent to full employment.

The equivalent of full employment replaces the total time invested in labor. This is a basic measure of human productivity, since it shows how much time was spent on producing a specific amount of profit. The main costs of human capital, according to Fitz-enz Yak. This is a salary and benefits for employees, payment of temporary workers, losses from the absence of employees and staff turnover. Then the cost factor of human capital (HCCF) is described in formula 3. $HCCF = \text{Salary} + \text{Benefits} + \text{Temporary employees} + \text{Lack of employees} + \text{Staff turnover}$, (3). Then the added value of human capital will be determined as follows in formula 4. Value Added of Human Capital = [Profit - (Costs - Salaries + Benefits)] / Equivalent to full employment, (4). Vaganyan O.G. offers the following methodology for evaluating the effectiveness of investments in the human capital of commercial organizations (10).

Because the interaction of individual elements of human capital is non-linear, only the integral investment efficiency is evaluated. In this case, the general approach to the assessment will be as follows. Two values are related: X (the difference between the organization's capitalization and the replacement price of its real assets, net of liabilities) and Y (investment in intangible assets). The coefficient of efficiency of investments in human capital is calculated as the ratio of the difference in the value of X at the beginning and at the end of the period and the value of investment Y during this

period. Moreover, all values are taken in a discounted form, taking into account inflation. The result is a coefficient of efficiency of investments in the human capital of commercial organizations, which is calculated according to the following formula 5.

$$Z = \frac{X_2 - X_1}{Y}, \quad (5)$$

Where Z is the investment efficiency ratio; X₂ - the value of human capital at the end of the period; X₁ - the value of human capital at the beginning of the period; Y - investment in the human capital of the organization. To calculate the value of Y, it is recommended to take into account the following components: research and development costs (research and development); expenses for education, advanced training, improving the health of workers, social investments; to create a corporate portal, website; for marketing; on the development of corporate culture; the acquisition of intellectual property (7).

Thus, the calculation of investment indicators reflecting the effectiveness of investments in the human capital of an organization consists of two aspects (3): assessment of the social effectiveness of investments in human capital (HCI_{min}); assessment of economic efficiency of investments in human capital (calculation of ROI). The first step is to assess the social effectiveness of investments in human capital, the minimum level of human capital (personnel) is HCI_{min}. The minimum level of investment in human resources is represented by formula 6 and is an expression of those investments that are necessary for the normal functioning of human capital.

$$HCI_{min} = \sum_{i=1}^n Z_i, \quad (6)$$

Where $Z_i = Z_i (C_{ij}, N_{ij})$ - the sum of a certain type of cost per month for the functioning of human capital, depending on the price of the service (C_{ij}) and consumption norms (N_{ij}); n is the number of cost groups, you can determine according to the structure of human needs. At the second stage of evaluating investments in human capital, it directly evaluates the economic effect. The fulfillment of this task is possible only after the implementation of any investment project related to personnel. To assess the economic effect of using the proposed profitability indicator - return on investment in the formula 7.

$$ROI = \frac{\Delta D - Z}{Z} * 100\%, \quad (7)$$

Where ΔD is the increase in income after the implementation of the investment project; Z - direct and indirect costs of the investment project. If the ROI is less than 20%, investment in human capital development is ineffective. The figure of 20% is the standard for "calm" companies holding a stable position in the market value of this, to speak about maintaining a stable position of the organization. If the ROI is from 20 to 150%, the investment project was successful and effective. "Aggressive" companies should focus on an ROI of approximately 150-200% (6).

Thus, the main indicator of the effectiveness of an investment project is the return on investment. A high value of this indicator shows a positive trend. To assess the effectiveness of investments in human capital, also using various indicators. In the economic literature, the following indicators of the effectiveness of investments in

human capital are defined: payback period (return) of investments; net current (present) value; cost-benefit ratio; annual net income; internal rate of return. The payback period is the ratio of total costs (c) to the marginal revenue constant (b), formula 8.

$$\sum_{t=0}^n b_t - \sum_{t=0}^n c_t = 0, \quad (8)$$

Where b and c - marginal revenue and costs, rub.; t is the number of time periods (collapsed). The most common investment criteria are net present value, formula 9, cost-benefit ratio, as well as internal rate of return:

$$V_0 = \frac{S_0}{(1+i)^0} + \frac{S_1}{(1+i)^1} + \frac{S_2}{(1+i)^2} + \dots + \frac{S_t}{(1+i)^t}, \quad (9)$$

Where V_0 is the net present value; i is the interest rate used for discounting; S_i - the amount of income. The internal rate of return, in Formula 10, is the percentage, which is compared to the interest rate, which is the allowable rate of return on public or private educational investments. Internal rate of return is the interest rate at which the present value of costs is equal to the discounted value of income. For this indicator should be satisfied:

$$E(r) = \sum_{t=0}^n (b_t - c_t)(1+r)^t, \quad (10)$$

Where r- is the internal rate of return; b - income in a certain period of time, rubles; c - costs of a certain period of time, rub. In addition, to assess the effectiveness of investments in human capital (education), it can be used as an internal rate of return on education at which the present value of future income is equal to the current value of the costs incurred.

CONCLUSION

Having analyzed all the above methods for assessing human capital, the most applicable for the company, located in modern difficult conditions, we consider the following: 1) A method for calculating direct staff costs, supplemented by an index method for assessing the organization's human capital; 2) Calculation of the effectiveness of investments in human capital.

The modern paradigm of the post-industrial era interprets human capital as a combination of knowledge, abilities and skills of employees of the enterprise, the costs of which are an important factor in improving the efficiency of the enterprise. Next, we highlight the following factors, the main catalysts for increasing the accumulation of human capital of an organization: qualifications, professional training and personal qualities; staff health level; level of staff satisfaction with work; level of intellectual capital. During the analysis of factors, the most significant for the modern manufacturer were identified, namely, insufficient investments in the level of health and qualifications of workers, dissatisfaction of staff with working conditions, disinterest of the enterprise in the development of intellectual capital of workers. The increase in one of the factors does not lead to a holistic increase in human capital, it is necessary to develop recommendations that will allow the organization to comprehensively increase human capital.

For the transition from human resources to human capital, we have identified the following stages:

The first stage is the transformation of human resources from social resources into enterprise resources. Initially, before entering the enterprise, human resources belong to social resources. Only after a series of procedures for the careful selection and signing of an employment contract does an enterprise have the right to use the labor of workers for a specified period. The task of recruiting employees is to ensure that the quality of employees matches the requirements of the enterprise. This lays the foundation for creating human resource values.

The second stage is the transformation of enterprise resources into enterprise capital. One cannot but admit that, initially, before entering the enterprise, human resources represent certain accumulated knowledge, skills and abilities. But it is not completely clear to what extent these skills can satisfy the needs of enterprises. In modern society, the level of knowledge and the quality of technology is changing rapidly, and the depreciation of human capital is also accelerating. Based on this, it is necessary to develop and invest in human capital, to allow these resources to turn into real capital that would meet the needs of the enterprise. In other words, through the training and education of staff to increase their professionalism and dedication to their business and enterprise.

The third stage is the transformation of the human capital of the enterprise into productivity. The essential difference between human capital and material capital is that human capital has the initiative. The effectiveness of personnel depends not only on the conditions of the external environment, but also on the human reaction to the conditions of the external environment. A highly skilled worker is not always highly productive. The ineffective labor phenomenon “appear at work, but not strain”, which exists in many companies, fully demonstrates this. Therefore, by scientifically and rationally stimulating workers, arousing their enthusiasm, initiative and creativity is a key factor in the transition from human resources to human capital.

The fourth stage is the assessment of human capital. In fact, this stage of the transition of human resources to human capital is a complement to the above stages and is a kind of controller. Assessment of human capital includes not only a traditional assessment of the effectiveness of human resources, that is, an assessment of knowledge, skills, abilities, attitude to work and others, but also an assessment of the creation of values and wealth of employees, that is, an estimate of the number of employee investments on the work done in the enterprise.

These four components are interconnected and mutually complementary, the transition from human resources to human capital depends not only on the efficiency of each sector, but also on the effectiveness of cooperation of all elements. Accordingly, the human capital management of an enterprise is a complete, integrated system. In an ever-changing and global business environment, attracting and retaining talented people is the key to success and a source of enterprise competitiveness. To attract and retain talent, it is necessary to satisfy their diverse needs. Talented workers make great efforts in their work, create values and wealth for the enterprise. In exchange for this, enterprises affirm the value and value of workers, and at the same time offer them material encouragement. Thus, distinguished employees experience satisfaction from self-realization, and they are ready to continue to work in this company and be part of it.

In the era of the knowledge economy, human capital management is a further development of human resource management. It not only represents administrative and

transactional work, such as personnel selection, staff training, attendance management and archive management, but also participates in enterprise decision-making. Human capital management is a systematic work (3). It must, according to the corporate strategy, select the required human resources for the development of the enterprise. In the future, through effective investments, turn them into human capital and increase the reserves of human capital, accumulating it. And thus, through rational incentives to encourage human capital to create wealth and values of the organization, company and society.

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