

УДК 331.101.3:616-036.21”364”

DOI: <https://doi.org/10.32782/2224-6282/183-8>**Kalaman Olha**Doctor of Economics, Assistant Professor,
University of Chemistry and Technology, Prague
ORCID: <https://orcid.org/0000-0001-5586-7654>**Botek Marek**PhD, Assistant Professor,
University of Chemistry and Technology, Prague
ORCID: <https://orcid.org/0000-0002-5941-3040>**Mandrykin Denys**Teacher,
University of Chemistry and Technology, Prague
ORCID: <https://orcid.org/0000-0002-7229-5894>**Каламан О.Б.**докторка економічних наук, доцентка
Хіміко-технологічний університет, м. Прага**Ботек Марек**PhD, доцент
Хіміко-технологічний університет, м. Прага**Мандрикін Д.В.**викладач,
Хіміко-технологічний університет, м. Прага

CONVERGENCE AND DIFFERENTIATION OF SCIENTIFIC APPROACHES TO THE MANAGEMENT OF ENTERPRISE HUMAN CAPITAL DEVELOPMENT

The presented study is devoted to clarifying the essence and systematization of all existing scientific approaches to the management of human capital of the enterprise. The purpose of the article was aimed at studying, convergence and differentiation of scientific approaches to managing the development of human capital of the enterprise and is associated with the empirical study of the structural components of human capital in the application of the principles and methods of system analysis. It is important that the goal was achieved. In addition, the study is based on the understanding that human capital is the main production resource at the disposal of the enterprise, in this regard, the problems of human capital management should be solved in the aspect of a unique understanding of the essence of the enterprise as a subject of the national economy.

Key words: human capital, human capital management, human capital development, balanced scorecard, human capital value, human capital determinants, convergent analysis.

JEL classification: J24, J41

КОНВЕРГЕНЦІЯ ТА ДИФЕРЕНЦІАЦІЯ НАУКОВИХ ПІДХОДІВ ЩОДО УПРАВЛІННЯ РОЗВИТКОМ ЛЮДСЬКОГО КАПІТАЛУ ПІДПРИЄМСТВА

Представлене дослідження присвячене з'ясуванню сутності та систематизації всіх існуючих наукових підходів до питань управління людським капіталом підприємства. Мета статті була направлена на вивчення, конвергенцію та диференціацію наукових підходів щодо управління розвитком людського капіталу підприємства та пов'язана з емпіричним вивченням структурних компонентів людського капіталу при застосуванні принципів і методів системного аналізу. Важливо, що поставлена мета була досягнута. Крім того, наведене дослідження виходить із розуміння того, що людський капітал є основним виробничим ресурсом, який є в розпорядженні підприємства, у зв'язку з цим проблеми управління людським капіталом мають вирішуватися в аспекті унікального розуміння сутності підприємства як суб'єкта національної економіки. У статті наведено конвергенцію знань про теорію людського капіталу, проведено дослідження та систематизація знань про теорію цінності людського капіталу. Проаналізовані дослідження показали, що у складі всіх видів витрат у людський капітал найважливішим при його вимірюванні є витрати на його розвиток. Такий підхід спровокував необхідність дослідження та систематизації управління розвитком людського капіталу підприємства. Критичний аналіз існуючих підходів управління людським капіталом, проведений у статті, дозволив виявити перелік обмежень інституціональних досліджень методологічного характеру і через багатогранність і структурну складність предмета дослідження сформулювати висновок про те, що для підвищення ефективності діяльності сучасних вітчизняних підприємств необхідно вдосконалювати управління людським капіталом на якісно новій методологічній основі. В статті наведено результати проведеного дослідження теорії цінності людського капіталу в контексті розвитку економіки праці й управління та експлікації концепції управління людським капіталом працівників підприємства. Дискусії в науковому співтоваристві щодо цінності людського капіталу та його освітньої компоненти тривають, при цьому кожен автор робить свій внесок у становлення цієї теорії.

Ключові слова: людський капітал, управління людським капіталом, розвиток людського капіталу, збалансована система показників, цінність людського капіталу, детермінанти людського капіталу, конвергентний аналіз.

Statement of the problem. Modern research is always aimed at obtaining unconventional knowledge, identifying new patterns and trends in the development of phenomena and processes, establishing their relationships and assessing the impact of internal and external environment factors on the object of study. The peculiarity of the object of study, human capital management, requires the use of appropriate research methods based on an integrated approach, which includes the creation of conditions conducive to the formation of high-quality capital, its development and effective use, as well as improving the organization of the human potential management system as a whole. In the future, the task of human capital management becomes relevant, which makes it possible to increase labor productivity through the intensification of economic activity, involving the available potential of the staff. Human capital management based on the results of its assessment allows the enterprise to increase the efficiency of its economic activity.

Human capital management should take into account both the knowledge and abilities that form the capital and the possibility of its capitalization, that is, accumulation in order to increase productivity. At the same time, it is necessary to take into account the income from the direct use of human capital of the enterprise. However, the human capital assessment, which has an individual character due to the fact that each employee is unique, is largely the result of expert activity, because it requires taking into account the particular employee characteristics. Therefore, with the help of human capital management methodology and its assessment, an enterprise can determine its ability to create value beyond its financial and material assets.

Human capital management is based on the objective position that human capital is not the property of the enterprise, therefore, for its effective use it is necessary to stimulate its owner to intensify its activities in order to ensure the growth of labor productivity. Since the key feature of this asset is its inseparability from the carrier itself, human capital management should take this fact into account. Therefore, the assessment of human capital in quantitative terms makes it possible to determine the potential income from its use in the interests of the enterprise itself, which is the main task of management.

The analysis of the latest publications on the problem. The convergence of knowledge about the theory of human capital is described in neo-Keynesian, institutional, neoclassical theories and other more recent economic studies. The emergence of the concept of human capital itself was a response to the expediency of scientific substantiation of the relationship between indicators of economic development and individual characteristics of the workforce. The opinions of the classics of economic thought about the important role of the intangible component of reproduction reflect a broad interpretation in the theory of human capital management.

Thus, L. Turow recognizes that in assessing the value of human capital it is necessary to take into account the degree of human ability to generate income. At the same time, he supplements his theory by including in the composition of human capital during its measurement the innate ability of a person and his talent, acquired qualification skills, education, economic capacity, legal culture and citizenship [1]. Thus, L. Turow measured human capital through the value of its productive capacity multiplied by their number.

The concepts of human capital value were continued in the teachings of T. Schultz [2], J. Mintzer [3] and other followers of the second half of the XX century. Thus, from the point of view of T. Schultz and G. Becker, human capital is measured by such a form of capital in which it serves as a source of future satisfaction of the employee in the form of future earnings, while it has such necessary features of productive force as accumulation and reproduction. T. Schultz substantiated that human capital is the main engine and the basis of the post-industrial economy, and for the first time in measuring the value of human capital he takes into account the cost of education as its important components, and substantiated that the prospect of wage growth stimulates individual spending on education. B. Chizvik noted that for the owner of human capital, the total wage of the employee after the completion of the owner's investment in human capital is equal to the sum of income on investment and earnings on the initial human capital [4]. Therefore, T. Schultz, G. Becker and B. Cizwick approached "the value of human capital from the point of view of the costs of development of society, in this approach human capital is estimated on the basis of its self-production value" [5]. J. Mintzer, who modified the regression equation of J. Becker [6], presents a multivariate model that includes the number of years of education, indicators of work experience, gender indicators on the logarithm of the income of employees [7]. This model was recognized as a classic for the study of investments in human capital. Thus, the practices of enterprise human capital management are covered in studies in the United States and Europe by the authors E. Brukipga [8], T. Stewart [9], L. Edvipsson [10], M. S. Malone [11] and are devoted to the process of formation and development of intellectual capital of enterprises. At innovative enterprises, where human capital is used as a key resource, their high efficiency was observed through a significant increase in market value and active capitalization.

Research and systematization of knowledge about the theory of human capital value have shown that in the composition of all types of costs in human capital, the most important in its measurement is the cost of its development. In this regard, we consider it necessary to study and systematize the management of human capital development of the enterprise.

Forming of the aims of the research. In this regard, the methodology of human capital management of an enterprise should be aimed at ensuring the fulfillment of a set of requirements related to the definition of basic concepts, the use of analytical methods and special tools focused on the construction of applied models for testing hypotheses, as well as empirical research of hypothesis testing and their quantitative rating. In this regard, in the methodology of applied research it is necessary to rely on the conceptual apparatus, which is based on an integrated approach and allows explaining a large group of phenomena and processes related to the management and development of certain fundamental concepts of the category of human capital, characteristics of external and internal factors and features of the use of human capital of enterprises.

The purpose of the article is to study convergence and differentiation of scientific approaches to managing the development of human capital of the enterprise and is related to the empirical study of the structural components of human capital in the application of the principles and

methods of system analysis. In his scientific work, the author proceeds from the understanding that human capital is the main production resource at the disposal of the enterprise, in this regard, the problems of human capital management should be solved in the aspect of a unique understanding of the essence of the enterprise as a subject of the national economy.

Presentation of the main material. For the study, convergence and differentiation of scientific approaches to managing the development of human capital of the enterprise, it is necessary to take into account the existing methodological tools and principles as the most effective solutions accumulated by the theory and practice of management. In addition to these studies, a significant contribution to the development of human capital management was made by R. Kaplan and D. Norton. Scientists used a balanced scorecard to assess its effectiveness, while maintaining the position that the data was obtained on the aspects under study. This approach led to the conclusion that it is impossible to use only one indicator-parameter for measurement. When applying the balanced scorecard, it is important for managers to have a balanced picture of the relationship between financial and performance indicators. Given this approach, managers should analyze the effectiveness of the enterprise from the following positions: customer, finance, innovation, personnel and internal environment [12]. The model of the balanced scorecard is shown in Fig. 1.

The balanced scorecard is focused on the formation of strategy and vision, so this model can help to align the individual work of employees with the overall development strategy of the enterprise. From the point of view of the internal environment, the human capital management system based on this model is a combination of direct and indirect financial and non-financial indicators that should reflect the real situation of the enterprise, taking into account the human capital at its disposal. The advantage of the described approach is that each enterprise can independently determine the indicators and criteria that determine the value of human capital when developing an assessment system.

A significant advantage of the described approach is the ability to define goals and, as a result, in the formation of a specific strategy, as well as in its relationship with the individual work of employees. Its application will allow the enterprise to focus on a small number of important indicators that affect the formation of human capital. However, the disadvantage is that the proposed theory considers a person as a cost of the enterprise, not as a source of income. Through targeted monitoring of the enterprise's activities, it is possible to make forecasts rather than quantify human capital. However, there is a limited application of this system due to the fact that the use of quantitative analysis of indicators is not presented [13].

It is important to note that as a logical continuation of the work of R. Kaplan and D. Norton, J. Fitzentz formulated a system of balanced scorecards for the management of corporate human capital, including their composition: Human Capital Revenue Index – an indicator of the human capital profitability index, which is defined as profit divided by the full-time equivalent of the employee; Human Capital Cost Index – an indicator of the human capital price index, which is calculated as the division of the amount of personnel costs by the full-time equivalent of the employee; Human Capital Profit Index – an indicator of the human capital income index, which is calculated as profit less "purchased services" divided by the full-time equivalent of the employee. This indicator reflects the return on investment in human capital [14].

In our opinion, in the above approaches there is no clear explanation of the difference between the first and the third indicator of the presented ones, since in the reporting of domestic enterprises there is no category of "purchased services", while the profit is calculated after deducting all costs, including the costs of services purchased by the enterprise. The indicator "full-time equivalent" is also unclear, since the author understands it as "all persons on the payroll, including contract workers and other temporary workers", and this raises the question of the definition of this indicator, since it does not reflect

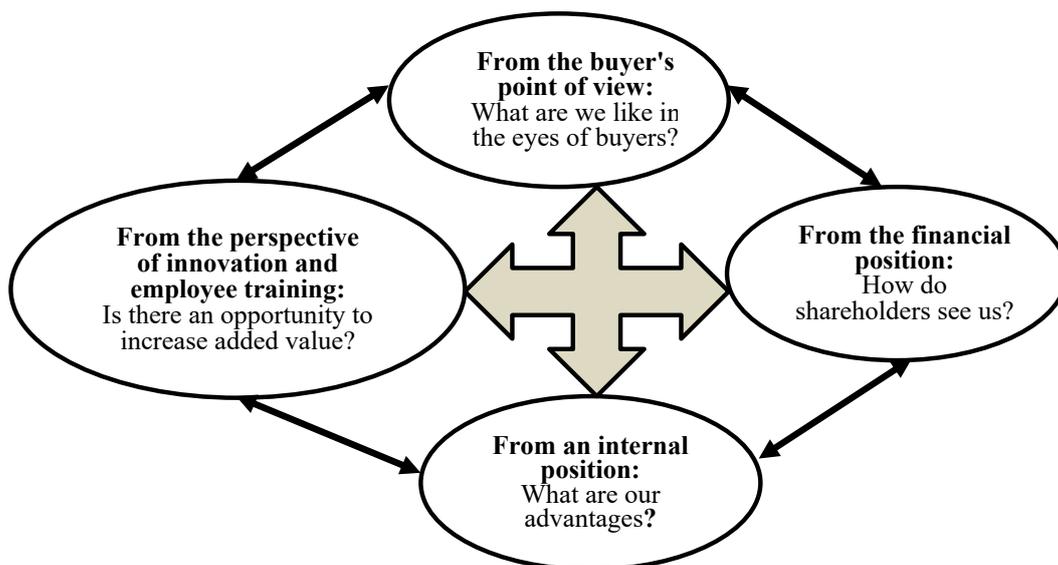


Fig. 1. The balanced scorecard model of R. Kaplan and D. Norton in human capital management

Source: compiled by the authors based on [12]

the working time, but rather the payroll of all employees. Then it is necessary to find out what exactly is the difference between the indicator of total personnel costs and the indicator of full-time equivalent in the calculation of the human capital price index. Of course, we do not belittle the results of this study, but their calculation requires detailed study and adaptation to domestic practice. Obviously, despite the variety of approaches to human capital management, a single universal methodology has not yet been presented. However, the indicators of the Kaplan-Norton balanced scorecard system, as well as the financial indices of human capital by J. Fitzentz, can be adapted to domestic enterprises with detailed study and testing [13].

Special attention should be paid to the scientific approach of M. Armstrong, who made a significant contribution to the theory of human capital management, substantiating the Watson-White human capital index, as well as highlighting the monitoring of human capital by Andrew Mayo. Thus, regarding the Watson-White human capital index, M. Armstrong notes that as a result of collecting and processing data from a survey of companies in 2001, Watson and White systematized a 4-factor model of human capital management and the impact of each factor on the market value of the company [15]:

$$I_{mv} = I_r \times I_c \times I_e \times I_h,$$

where I_{mv} – index of market value of the enterprise;

I_r – index of "total remuneration and responsibility";

I_c – index of "collegiality and flexibility of human resources";

I_e – index of "employee retention";

I_h – index of "honesty of communication".

As a result of the study, it was found that the market value of the company, taking into account the above factors, increases by 30%. However, the above indices, in our opinion, include qualitative attributive indicators that can be quantified. If the total remuneration can be measured through the value of wages, the index of employee retention can be estimated through the index of staff stability, the indices of flexibility and honesty are questionable (subjective), requires further development

and adaptation, and there is also a difficulty in collecting information data [16].

The Sears Roebuck model for human capital management is presented not as a strictly functional dependence, but as a flowchart of a certain set of algorithm of actions. Its essence is that it allows to explain that employees are satisfied with their work (Fig. 2). The Sears Roebuck model describes the chain "employee-customer-profit", according to which the behavior of employees affects the attitude of customers and sales volumes, as a result, the company's profit increases. This model of human capital management is based on the fact that if the company has created excellent working conditions, employees will be satisfied with working conditions, which contributes to their retention. As a result of creating useful and sought-after values, it is easier to retain satisfied customers who, based on their impressions, recommend the company as a great place to shop, in turn, this state of affairs will inevitably lead to an increase in the profitability of the enterprise and increase profits.

The Mayo method of human capital management efficiency allows to determine the value of an employee of the enterprise as the value of human assets:

$$\text{Value of Human Assets} = \text{Employment Cost} * \text{Individual Asset Multiplier},$$

where Value of Human Assets – the value of human assets;

Employment Cost – the cost of employees;

Individual Asset Multiplier – individual asset multiplier.

When calculating the individual asset multiplier, a weighted average indicator is used that evaluates the capabilities, potential growth, personal qualities of the employee, and the employee's contribution to the value of the enterprise. This indicator allows to determine the impact of human resource management on the efficiency of the enterprise. At the same time, Mayo emphasizes that an important indicator of measuring human capital is the level of development of special knowledge possessed by employees of the enterprise. However, the use of a small number of described indicators limits its application. Obviously, based on the analysis of approaches to the

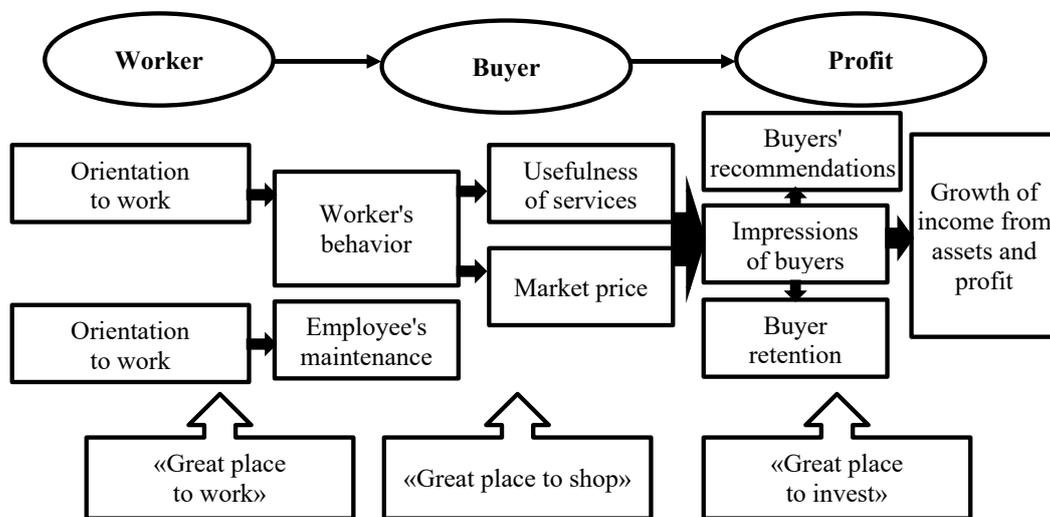


Fig. 2. Sears Roebuck human capital management model

Source: compiled by the authors based on [15]

theory of human capital management, it can be stated that it is mainly considered as an object of intangible assets. The evolution of the development of productive forces has led to the fact that the concept of human capital goes beyond its physical embodiment.

The practice of today has generally recognized the fact that capital is embodied in its intangible forms, where human capital occupies a special place. However, ethical contradictions of the very essence of human capital arose due to the fact that initially this term was used by analogy with fixed capital as an investment in fixed capital, that is, a person was associated with some equipment. However, a free person cannot be considered from the standpoint of moral and philosophical concepts as part of an enterprise asset or its property. Subsequently, it was confirmed that the identity of methodological approaches to the assessment of investments in human capital as part of the total capital of the enterprise created the rejection by many scientists as an inhumane approach to the interpretation of this category.

However, researchers in the theory of human capital management proposed three groups of classification of indicators for its evaluation [17]: indicators of funds, calling them the health fund, migration fund, production training fund, economic information fund, economic activity motivation fund; indicators of the degree of aggregation in accordance with the functions of macro- and micro-production of human capital; indicators of accounting in material form: costly from the point of view of costs; natural, expressed in units of accumulated human capital; and the indicator of the human capital stock.

However, no attention is paid to the detailed justification of the use of these indicators, as well as their conversion from qualitative to cost indicators. However, it is advisable to consider the systematization of these approaches in Fig. 3.

The disadvantage of these approaches is, in our opinion, the difficulty of access to the source data for application in practice.

The problems of human capital management are highlighted in studies aimed at determining the assessment of the impact of human resource management on the performance of the enterprise. Thus, in 1994 in the United States, Jeffrey Arthur confirmed the hypothesis of the impact on the effectiveness of the strategy implemented to regulate the behavior of employees and their attitude to work on the empirical basis of a study of 54 companies. Thus, he was one of the first to assess the relationship between the enterprise strategy and the practice of personnel management. At the same time, scientists were presented two models with different principles of human resource management. One model was quantitative, focusing on the control function to reduce direct labor costs. The second model is qualitative, represented by the factors of employee loyalty development with the coordination of employees' goals and the goals of the enterprise. At the enterprises using the loyalty model, higher labor productivity and twice less staff turnover were achieved. Thus, the strategy of personnel management, depending on the chosen model of loyalty or control, allowed to determine the effectiveness of the chosen strategy of the enterprise and investments in human capital [18].

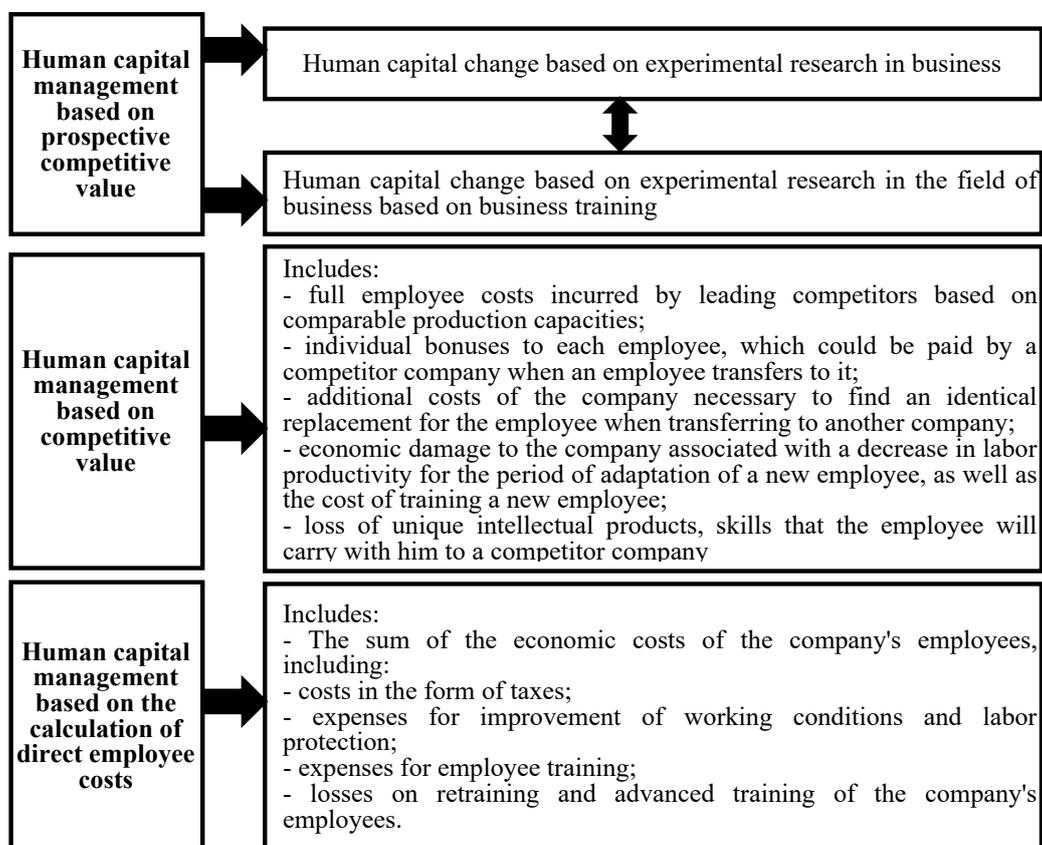


Fig. 3. Approaches to measuring the value of human capital of the enterprise for the purpose of its management

Source: compiled by the authors

A stable positive relationship between the impact of the human capital management strategy on the efficiency of the enterprise was noted by B. Becker and B. Gerhardt, emphasizing the confirmed hypothesis about the role of the human capital management strategy of enterprises. Today, enterprises are not yet fully aware of this role and do not have a clear idea of approaches to human capital management as a factor of enterprise efficiency. Artistic human capital management as a trigger for the strategic development of the enterprise should have a strong impact not only on strategic management, but also on operational and tactical management [19].

As a result, the tools of human capital management should be transferred to the interdisciplinary plane, as a synthesis of psychology, labor economics and management. In this regard, the first attempts to attribute the convergence of knowledge about human capital management to the interdisciplinary plane were made by B. Becker and B. Gerhardt, who develop the discussion about the universality of management methods. In their research on human capital management they offer a synthesis of various tools for their further universal application. The probability of replication of a particular human capital management tool is determined by the level of management and, accordingly, may decrease depending on the level of efficiency of business processes in a particular enterprise. At the same time, the architecture of the enterprise human capital management system can be universal, which includes the principles and methods of management in order to develop a universal methodology for human capital management [20].

In the early 1990s, within the framework of a national survey, American scientists J. Delaney and M. Huslid conducted a study of enterprises from a national sample of organizations on the impact of progressive methods of human capital management on its efficiency, as well as on the skills and motivation of employees [20]. The results confirmed this hypothesis about the impact of progressive methods of human capital management on the skills and motivation of employees. However, the hypothesis about

the impact of certain combinations of approaches to human resource management on the efficiency of the enterprise was not confirmed, and the relationship was insignificant [21].

Empirical studies by J. Delery and D. G. Doty, conducted in organizations, also confirmed the connection of strategy with the practice of human capital management of the enterprise. Enterprises with a human capital management strategy had an average of 50% higher return on assets and capital compared to other enterprises that do not have one [22]. In the late 1990s, foreign studies finally formed the idea of a strategic approach to human resource management, which, according to Huslid, is a synthesis of the processes of designing and implementing a set of management tools. This is what ensures the formation and development of human capital to achieve the goal of the enterprise [23].

The fundamental basis for the development of strategic human resource management is the results of research on the impact of human resource management practices on improving the efficiency of enterprises. Strategic approach to human capital management of the enterprise allows to consider this process in a completely different plane. According to Huslid: "The technical approach to human capital management, in which the enterprise is considered as an organization that develops activities in a social institutional environment where the main stakeholders are shareholders, is replaced by a strategic one" [24]. Accordingly, we can state: "It consists in activation of innovative processes within the organization, which are somewhat riskier in terms of the traditional approach, which, on the one hand, increases the competitiveness of the organization, but, on the other hand, increases uncertainty and risk". Theoretical and applied approaches to human capital management, their author's systematization is presented in Fig. 4.

A critical analysis of existing approaches to human capital management allowed to identify a list of limitations of institutional research of a methodological nature and, due to the multifaceted and structural complexity of the subject of the study, to formulate a conclusion that in order

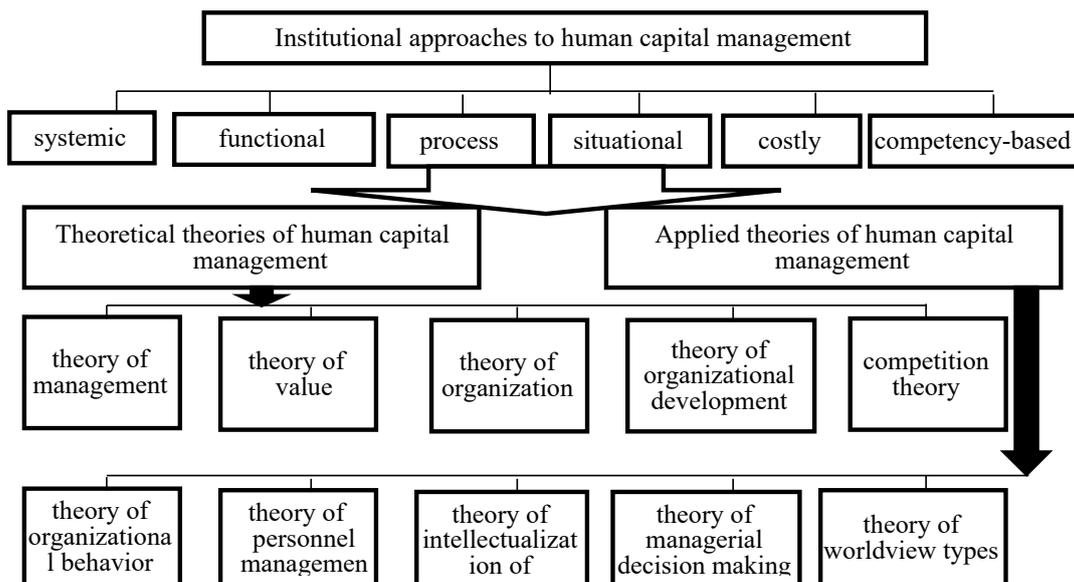


Fig. 4. Approaches to human capital management

Source: systematized by the authors

to improve the efficiency of modern domestic enterprises, it is necessary to improve human capital management on a qualitatively new methodological basis.

Conclusions. The article presents the results of the study of the theory of the value of human capital in the context of the development of labor economics and management and the explication of the concept of human capital management of enterprise employees. Discussions in the scientific community on the value of human capital and its educational component continue, with each author contributing to the formation of this theory.

Research and systematization of knowledge about the theory of human capital value have shown that among all types of human capital expenditures, the most important in its measurement is the cost of education. In this regard, close attention is paid to conceptual approaches to assessing education as an important determinant of human capital. The article presents changes in the theory

of human capital management and the concept of human capital management. It has been proved that the modern management theory has re-explored the category of human capital and moved it from the area of neoclassical labor economics to the sphere of corporate governance.

Thus, the purpose of the article, which is to study, convergence and differentiation of scientific approaches to managing the development of human capital of the enterprise and is associated with the empirical study of the structural components of human capital in the application of the principles and methods of system analysis, has been achieved. The conducted coherent analysis of theoretical studies allows us to speak in the perspective of further research about the need to develop theoretical and methodological foundations, as well as organizational and managerial tools for human capital management. It also could be interesting to think not only about the human capital but focused on intellectual capital concept.

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