

## **Methodological Approaches to Analyzing the Indicators of Human Capital Management in the Interests of Innovation Development of Enterprise**

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**Abstract:** The study deals with the pressing issues of human control management in the interests of innovation development of an enterprise. At the present time, people themselves but not equipment, resources or infrastructure are the engines of innovation development of the enterprise. The researchers have revealed the role of managing the human capital under high competitive conditions, it has been conducted the analysis of the most popular models of human capital. Basic assumptions of scientific novelty of the investigation consist in the following: it has been reflected the comparison characteristics of the notion “human capital of the enterprise”, investigated the role of human capital in innovation development of the enterprise, distinguished the structure of human capital of the enterprise, suggested the model of human capital of the enterprise, presented the basic elements to measure human capital of the enterprise. The model of human capital of the enterprise, developed by the researchers, shows that if the employees are satisfied with their work, the customers will be satisfied and in the end, the employers will be satisfied. This model of human capital is directed at creation of favorable conditions for the staff including motivation and keeping the staff, it will allow to create the conditions for continuous improvement of human capital in the interests of innovation development of the enterprise. The developed model will allow the enterprises to form an innovative type of the employees’ thinking aimed at creation of innovation products and technologies.

**Key words:** Human capital, human capital management, assessment of human capital, the model of human capital assessment, the methods of managing human capital

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### **INTRODUCTION**

Under present-day conditions, human capital management is the main factor of innovation development of the enterprise. The principal feature of innovation consists in its development and prosperity to depend not only on up-to-date equipment and resources but on the man as a bearer of knowledge, abilities, creative and business energy (Grayson and Dell, 1991).

Human capital is the dominant assets of any organization. It is necessary to invest in this asset to provide the survival and innovation development of the enterprise.

### **MATERIALS AND METHODS**

The theory of human capital as an independent branch of economic analysis emerged at the turn of the 50-60s of XX century, thanks to the scientific researches of the classics of the world economic thought and also scientific and technical revolution. The American Economists from Chicago University Gary Becker, Theodore Shultz, etc., made an outstanding contribution to the development of human capital theory. Their researchers determined to a large extent the orientation of further researches in this field (Dobrynin *et al.*, 1999).

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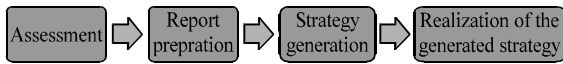


Fig. 1: The process of human capital management of the enterprise

Schultz (1960, 1961) was one of the first who introduced the notion of human capital as a productive factor. The basic assumptions of this theory were formulated in the article “Capital Formation by Education”, published in 1960 and summarized in another his study “Investment in Human Capital”, published in 1961.

Individual human capital is an innate and accumulated with experience and investments the storage of knowledge, abilities, skills, health, culture and motivations being conducive of increase in efficiency and income of the individual (Korchagin, 2005).

Human capital of the enterprise as N. Bontis thinks is the combined intellect, abilities and special knowledge that add a distinctive feature to the company (Armstrong and Baron, 2007).

Davenport (1999) believes that human capital of the enterprise consists of non-material resources which are given by the staff to their employers. Human capital management means directive actions of the agents of management on formation and generation of the elements of human capital responding to innovative characteristics (Zhuravlev, 2011). The process of human capital management is schematically presented in Fig. 1.

Assessment of human capital enables to see current state of human capital of the enterprise and generate the strategy of its development for the next period. The role of no small importance in measuring human capital is played by methodology selected by the enterprise to assess human capital. Therefore, it arises the necessity to develop an effective method of evaluation of human capital of the enterprise.

**RESULTS AND DISCUSSION**

**The structure of human capital of the enterprise:** For developing an effective method of evaluating human capital of the enterprise and also determining the most important direction of investing, it is necessary to have a notion of the structure of human capital. The structure of human capital developed by the authors is presented in Fig. 2. Human capital of the enterprise is a set of individual human capitals possessing knowledge, abilities, experience, health and motivation.

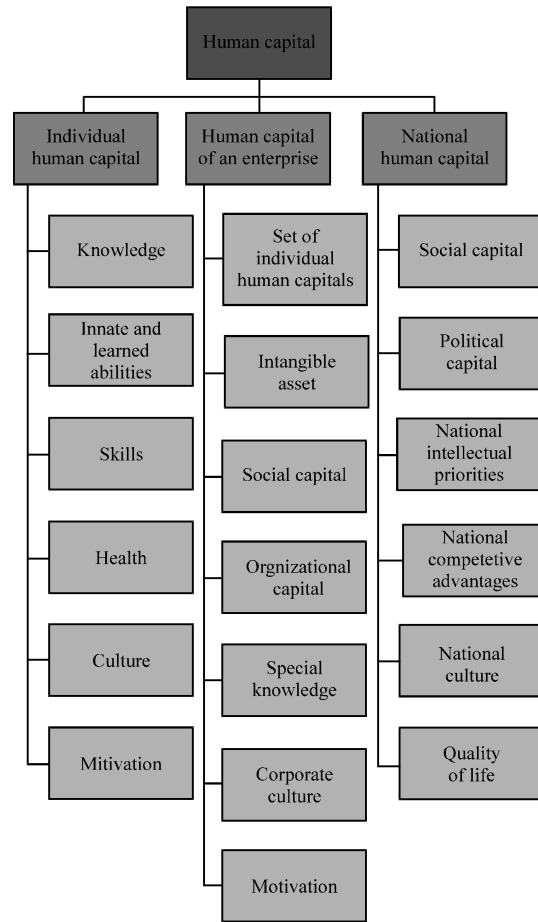


Fig. 2: The structure of human capital

Social capital represents knowledge, acquired owing to the network of interrelations both within and beyond the organization (Armstrong, 2012). Organizational capital is knowledge, possessed by the organization but not by certain employees (Smirnov *et al.*, 2005). Special knowledge, in Becker (1993)’s judgment is knowledge and skills, acquired in the results of special preparation and representing the interest only of the company where they have been acquired.

Corporate culture plays a significant role in human capital management. A distinctive feature of effective corporate culture is ability to attract, motivate and retain the talented employees (Fitz-ents, 2009). Values, retention and culture constitute a basis of any business. If company managers do not know the company culture it will manage them (Latyshev and Gadiyeva, 2015).

Corporate culture may be also influenced by national culture. Garrison and Huntington (2002) believe that some of the cultural features contribute to the prosperity of business, the other, on the contrary, put the brakes on the

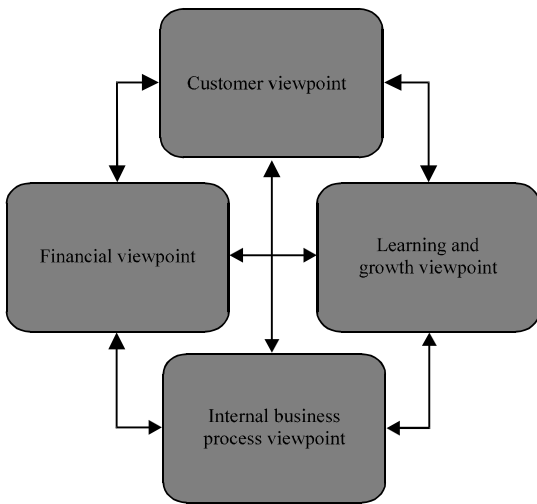


Fig. 3: The prospects of the balanced system of indices

economy. For the purpose of high returns from human capital of enterprise it is necessary to develop and implement the system of money and non-money motivation (Gogitidze, 2010).

**Balanced scorecard:** Different researchers have developed the whole set of parameters for the purpose of systematic quantitative assessment of human capital of individuals or enterprises. Consider the most popular methods of assessment of human capital (Armstrong, 2011).

One of the most popular methods of valuation of staff by a set of indicators is a balanced system of indicators developed by professors of Harvard University Kaplan and Norton (1996). The balanced scorecard is a system that allows an enterprise to clearly formulate prospects and strategy and to realize them. In the system of balanced indicators, it is suggested considering the enterprise from the viewpoint of four perspectives (Fig. 3):

- From the point of view of innovations and learning. This perspective includes staff training and development of corporate culture both individually and at the corporate level
- From internal business process point of view. Indicators of this area allow the management to determine how efficient the enterprise works, whether the products and services meet the requirements of clients
- From the point of view of customers. A modern business management takes into account growing importance of client orientation and his being satisfied in any sphere

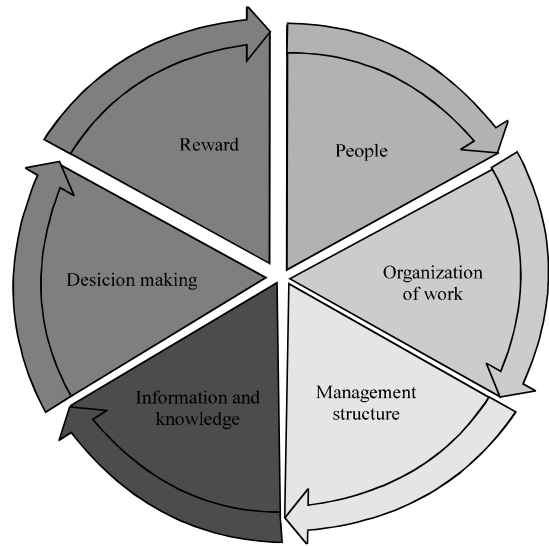


Fig. 4: Circular model of human capital Mercer HR consulting

- From the financial point of view. Timely and sharp data about capital are always important and, therefore, the managers are to do all the best for their support

One of the main advantages of this system is an emphasis on the necessity to do the best measurement of contribution of human capital and acknowledgement of different participants' contribution to the success of organizations.

The set of indices of the balanced system must be invariable to use it in the long run. The results from implementation should be expected after several months or even years. The implementation of balanced system of indices is impossible without active participators of the employees (Vasilyev *et al.*, 2013).

Unfortunately, the balanced system of indices has disadvantage. It is to be adapted to the concrete conditions. For example, branch and culture differences between Russia and Japan do not allow to simply shift the balanced system of indices.

**Circular model of human capital Mercer HR consulting:**

The consulting company in the sphere of managing Human resources Mercer HR consulting has presented its circular model of human capital (Fig. 4). It is based on the model of productivity of an enterprise that establishes linkage between human capital management and productivity of employees (Nalbantian *et al.*, 2004). The circular model of human capital Mercer HR consulting consists of six interrelated elements:

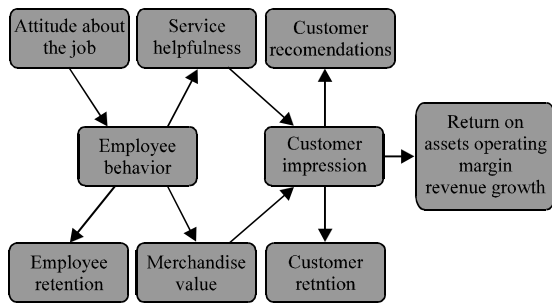


Fig. 5: The model of human capital SearsRoebuck

- People: their skills, abilities, skill level
- Organization of work: how exactly the work is carried out, to what extent the team work is developed
- Management structure: the degree of employees' freedom to act, intensity of management and control
- Information and knowledge: how the employees obtain information and how they exchange it with the help of formal and informal means
- Decision making: who makes the important decisions, the degree of decentralization, collectivity and timeliness of decisions and how
- Reward: application of economic and intangible forms of rewarding

The circular model of human capital Mercer HR consulting allows to define the problems that prevent the employees from achieving the assigned goals and objectives of enterprise. Disadvantage of the model Mercer is that it requires time to collect and analyze data.

**The model of human capital SearsRoebuck:** Model SearsRoebuck having become widespread in Great Britain, affirms the importance of indicators of involvement to assess human capital, the chain “employee customer” is in its basis.

The Model SearsRoebuck shows that increase in commitment of the employees of enterprise and also motive factors of productivity of business activity are determined by the methods of managing the employees and proactive behavior of linear managers (Armstrong and Baron, 2007) (Fig. 5).

The fundamental advantage of the Model SearsRoebuck is that it demonstrates interrelationship between the creation of compelling work place and creation of innovative products that meet the requirements of the customers and in the end, leads to attraction of investments to enterprise. The drawback of this model is insufficient study of indices to assess human capital.

**The model of human capital of the enterprise developed by the researchers:**

At the present time, great number of models of human capital assessment has been presented. Nevertheless, there is usual lack of sufficient effective parameters of measurement of this value and informing about it. Valuation methods, suggested for now, evaluate the productivity rather on last period data but do not assess most likely prospective effectiveness.

Lowler (2003) thinks that without the system of measuring productivity and reserves of its increasing it is very difficult to effectively manage human capital. An effective system of productivity management is to become a key element in developing the system of human capital management in any company. Having studied the most widespread models of human capital of enterprise, the authors propose their own model (Fig. 6). The model of human capital of enterprise developed by the researchers demonstrates that if the employees are happy with their work, the customers will be also happy and in the end, the employers will be happy.

The basis of the model is a chain of factors that has an influence on the success of enterprise. The enterprise by giving information and knowledge, investing in education and health and rewarding the employees, promotes the work. When the employees are satisfied with their work, it is formed commitment to enterprise and innovative thinking, it is accumulated organizational capital and it results in creation by the employees the innovative goods, services and technologies. The customer, buying innovative goods and services, satisfies his claims and it is formed the loyalty to brand and he recommends these products and services to his friends, relatives and so on. It leads to the growth of income and the market value of the company and in the end, the employers are satisfied with the job of their enterprise.

In the 20th century, the competitive advantage of any enterprise were technologies, tangible assets and big scale of production. The success of enterprise consisted in high indicators of profitability of debt capital, return on assets and profitability of production. At the present time, the situation has changed. The main factors are becoming now intangible assets (Vasilyev *et al.*, 2013).

From our point of view, the developed model of human capital demonstrates the directions for human capital assessment of enterprise. For successful application of the model in practice, it should be distinguished the basic elements to measure human capital. The main elements for human capital measurement can be the following:

- Basic information about the employees
- Information about quality of work of the employees and their progress

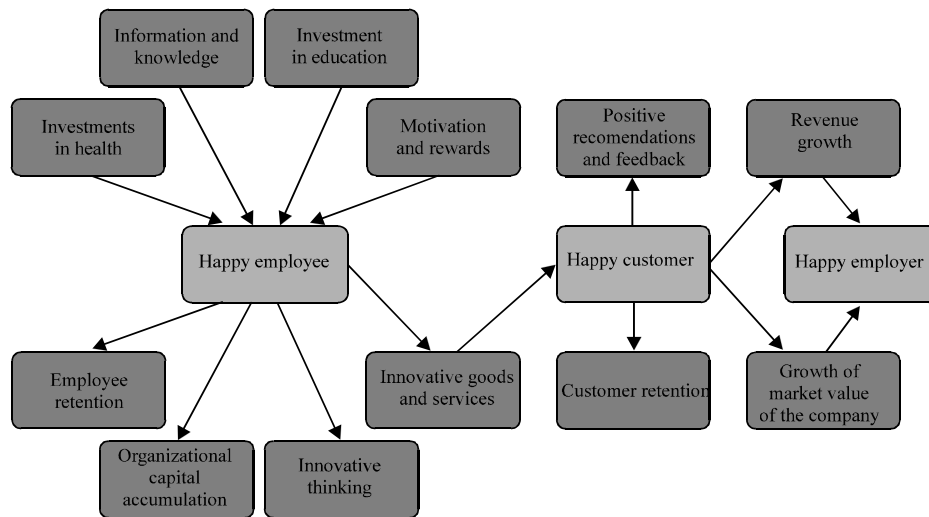


Fig. 6. The model of human capital of enterprise, developed by the researchers

- Perceptual information survey to clear up the causes of dismissal, determination of collective group sets and opinions, focus-group
- Information about quality of work
- Non-financial variables

In judgment of Low and Siesfield (1998), the ten main elements are: quality of corporate strategy; implementation of corporate strategy; trust in managers; innovations; supervising researches; ability to attract and retain the employees; share of the market; management experience; correspondence of payments to the interests of proprietors of enterprises; quality of the main business-processes.

### CONCLUSION

Under the conditions of use of sanctions against Russia, an effective management of human capital may become the motive power to create innovative goods, technologies and services. The model presented by the researchers indicates to interconnection between investments of the employees and revenue growth and the market value of the enterprise. This model will allow the enterprises to obtain the information about current state of human capital and show the guide line to develop it. Human capital assessment will enable the enterprises to work out the strategy and in the end, lead to formation of innovative thinking of the employees of the enterprise.

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### REFERENCES

- Armstrong, M. and A. Baron, 2007. Human capital management: achieving added value through people. London: Kogan.
- Armstrong, M., 2012. Practice of Human Resource Management. The 10s issue. SPb: Peter, pp: 848.
- Armstrong, M., 2011. Managing Performance: Performance Management in Action, M.: Alpine Publisher, pp: 250.
- Becker, G., 1993. Human Capital. The Impact on Earnings of Investment in Human Capital. The United States: the Economics, politics, ideology. 11: 109-119.
- Dobrynin, A.I., S.A. Dyatlov and Ye.D. Tsyrenova, 1999. Human Capital in Transitive Eco., Formation, Evaluation, Effectiveness of Use. SPb.: Sci., pp: 309.
- Davenport, T.O. 1999. Human Capital, Jossey Bass, San Francisco, CA.
- Fitz-ents, Ya., 2009. Return on in Human Capital: Measurement of the Economic Value of the Staff. Yak Fitz-ents; [translated from English: by Menshikov M.S., Leonov Yu. P., Edited by. V.I. Yarnykh. M.: Peak, pp: 320.
- Gogitidze, M.V., 2010. The Concept of Corporate Human Capital. Problems of Modern Eco., 3: 86-88.
- Grayson, J.C. and C. O' Dell, 1991. American Management on the Threshold of XXI century. M.: Sci.
- Garrison, L. and S. Huntington, 2002. Culture Matters. How Values Contribute to Social Progress. M.: Moscow School for Policy Studies, pp: 320.
- Korchagin, Yu.A., 2005. Russian Human Capital: The Factor of Development or Degradation?: Monograph. Voronezh: LERC, pp: 252.

- Kaplan, R.S. and D.P. Norton, 1996. *The Balanced Scorecard*, Harvard Business School Press, Boston, MA.
- Latyshev, I.O. and M.B. Gadiyeva, 2015. Peculiarities of Corporate Cultures of the Leading Motor Manufacturers. Internet J.1 "Science. on Science", 2(27), M.: Science. on Science., <http://naukov.edenie.ru/PDF/20EVN215.pdf>.
- Lawler, E.E., 2003. 'Current Performance Management Practices', *World at-Work Journal*, 12(2): 21-30.
- Low, J. and T. Siesfield, 1998. *Measures that Matter*, Ernst and Young, Boston, MA.
- Nalbantian, R., R.A. Guzzo, D. Kieffer and J. Doherty, 2004. *Play to your Strengths*, McGraw-Hill, New York.
- Schultz, T., 1960. Capital Formation by Education. *J. Political Economy*, pp: 68..
- Schultz, T., 1961. Investment in Human Capital. *The American Economic Review*, 1: 38-56.
- Smirnov, V.T., I.V. Soshnikov, V.I. Romanchin and I.V. Skoblyakova, 2005. *Human Capital: Content and Types, Valuation and Motivation: Monograph*. M.: Mechanical Engineering -1, Orel: Orel SOU, 513: 123.
- Vasilyev, V.L., E.M. Tuktarova and E.M. Akhmetshin, 2013. A Balanced Scorecard and Economic Security of Companies. *World Applied Sci. J. (Edu., Law, Eco., Language and Communication)*, 27: 424-427. <http://www.idosi.org/wasj/wasj27%28elelc%2913/87.pdf>.
- Zhuravlev, M.V., 2011. Human Capital Management in the Interests of Innovation Development: New Approach to Definition. *Theory and Practice of Public Development*, 2: 285-290.