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**HUMAN CAPITAL IN VALUABLE ORIENTATIONS OF
STUDENTS: METHODOLOGY, METHODOLOGY AND
DIAGNOSTIC RESULTS**

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Abstract

Diagnosing the value orientations of students as future leaders of organizations in the realization of the importance of developing the human capital of enterprises and firms is an actual practical and scientific-pedagogical problem. This is especially important for training students in national educational centers of the world level (SEC). Studying the orientation of students of SEC in the analysis and activation of human capital remains a poorly studied topic. The methodology of data analysis and analysis requires that the accumulation of experience occur in various communities – at the level of firms, regions, at the federal level. As shown by the results of experimental studies, it is advisable to formulate methodologies for substantiating student values in relation to human capital on the basis of a comparative analysis using the method of studying social indicators of students at a university. These results confirm the assumptions that: 1. The business qualities of the person that most affect the development of human capital, business qualities – in the system of values, students were obviously significant; 2. The growth of the values of quality education at the university correlates with the socio-demographic requirements of students (young men, urban, rural residents, etc.); 3. As you study at the university, the configuration of values relative to business qualities changes. It is concluded that there is a need to use diagnostic tools, as well as the possibility of using diagnostic information in the management of pedagogical processes in university (SEC).

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1. Introduction

The decisive, and possibly the only, resource for overcoming a series of crises in the Russian Federation lies in activating the human capital of Russians (Bobylev, Tikunov, & Cherry, 2018; Myzin & Gurban, 2011; Tikhonova, 2012). Therefore, the role of man, his creativity, talents and talents in the formation of an effective economy is difficult to overestimate. Actually, the task of activating the human factor is posed to students and researchers studying in the newly created national educational centers, SECs. In accordance with Strategy 2024 (Decree of the President of the Russian Federation “On National Goals and Strategic Tasks of the Development of the Russian Federation for the Period Until 2024”), SECs are considered as locomotives for the development of Russian regions. According to the Strategy, in the preparation of students and young researchers in SECs, an important role is given, in particular, to the development of their skills and integration of human capital, the economic capabilities of organizations and enterprises, in general, the activation of human capital in the regions of the country (Gitelman & Kozhevnikov, 2018; Grigoriev & Dyatlov, 2012; Rozontova, 2014; Rozontova & Kulakova, 2014). It is anticipated that competitive and talented specialists will be able to train in SECs able to dramatically influence the socio-economic situation in the regions thanks to special approaches to building the competencies of employees, developing their special abilities to manage the human capital of organizations, enterprises and firms, where they have to work (Glukhov & Gryazeva-Dobshinskaya, 2018). To a large extent, the success of such training will depend on how adequately the students' skills in analyzing and developing the human capital of employees of organizations are already assessed during the training process in SECs.

2. Problem Statement

The scientific problem of organizing the diagnosis of awareness of the importance of the human capital in the orientations of students and young researchers of the SEC is as follows. Human capital is multidimensional (Anikin, 2017; Smyslov, 2007; Zgonnik, 2007). A generalization of scientific positions on the problem of diagnosing human capital allows us to talk about several methodological approaches, and hence several methodological strategies for obtaining and analyzing diagnostic information about human capital. Thus, the investment approach assumes as an immediate object of study the analysis of data on the quantity and quality of investments that are aimed at improving human capital (Bobylev, Tikunov, & Cherry, 2017). An objective or factorial approach, similar in nature to the methodological diagnostic strategy. This approach involves such a research procedure when, on the basis of statistical data, a set of objective socio-economic factors is studied that in one way or another affects the characteristics of human capital (for example, the quality of food, ecology, working and living conditions, etc.) are analyzed, which defined as important forces affecting human capital. As in the previous case, the conclusion about the state of human capital is made on the basis of studying data that only indirectly reflect the characteristics of the people themselves (Gruzkov, 2011). On the contrary, in the framework of the subjective concept of the diagnosis of human capital, the main indicators of its condition are determined by the innate or acquired characteristics of people. For example, abilities, health, physical strength – such, and indicators identical to them, are attributed to the innate characteristics of people;

knowledge, skills, etc., to acquired (Martsinkevich & Soboleva, 1995; Plaksunova, 2009). In this case, conclusions about the state of human capital are made on the basis of an analysis that reveals the subjective facets of people. Moreover, quite often this is done without contacting the respondents directly, on the basis of expert opinions or statistical data. The personal-individual approach as the main indicators of human capital provides for the study of needs, motivations, personality types, less often – values that affect the effectiveness of human activities (Katkova, 2008; Stepanova, 2012). In the framework of such a methodological strategy, an appeal directly to a human respondent, on the contrary, forms the basis of the research procedure. In the sequence of another approach, the diagnosis and assessment of human capital is carried out based on the analysis of the results of human activities. Such a principled position is characteristic of a resultant or productive approach (Andreeva & Garanina, 2017). As a promising direction in the diagnosis of human capital, ideas are expressed about a comprehensive approach to the study of indicators, including both objective and subjective characteristics of human capital.

An analysis of the approaches shown allows us to draw a conclusion about the immediate objects of research, the appeal to which allows us to make a generalized (complex) conclusion about the state of human capital. Based on the presented research positions, a comprehensive methodology for the diagnosis of human capital involves turning to several objects of research, these are: the people themselves and their subjective characteristics; socio-economic environment in which these people operate; objects with which these people interact – the production of goods or services, etc. (means and production technologies, field of activity); investment in human capital and, finally, the results of these people. It is important to emphasize that researchers repeatedly express the promise of this idea, that only an analysis of the interaction and relationship of the elements shown allows us to talk about an adequate description of human capital as an integral object of research, as we see, consisting of analysis and diagnosis of phenomena of various socio-economic nature. Along with this, it's early to talk about such a methodology in which an approach is actually implemented where it is systematically investigated within the framework of a single research procedure – the person himself, the objects of his influence, the external environment, investments and labor results – this is the future perspective. Therefore, a number of publications rightly emphasize that such a study today can only be carried out at the level of qualitative methods based on expert assessments (Arabyan, 2007).

The obvious and more. The methodological foundations of the diagnosis of human capital shown primarily focus on addressing the “human” component of this phenomenon. It is the analysis of the human component in research that receives close attention in the scientific literature. At the same time, much less attention is paid to the discussion of the meanings and essence of the transformation of human potentials into capital, the very concept of “capital” regarding human activities.

In our opinion, the adequate application of the category of “capital” to a person and his activities must be associated with an understanding of a special kind of social relations – this is firstly. Secondly, capital as a relation is a special form of social interaction and relationships, as a result of which something new arises and born, which does not exist before. Scientists-economists by this "something new" mean profit, income, surplus value, reproduction – all that gives a certain increment, increase, increase. This is the main meaning of the capitalist relationship between man and the object of interaction (Dementiev &

Scherbakov, 2017). The emphasis shown implies an understanding of human capital as a special social force, the result of which is the reproduction or increment of something.

Along with this, in our opinion, at this stage, the construction of a holistic methodology for the diagnosis of human capital is possible based on the study of a single object of study – the values of people in which the whole totality of relations and elements that form the way of realizing human capital are “grasped”. In the present case, we proceed from the basic position that the main connecting element, the basic elements of the presented structure of human capital are the many-sided relations of a person: to himself, to objects of interaction in the course of labor activity, to the external environment, to the results of labor. It is on the basis of people's attitude to facts of self-knowledge and facts of reality around them – as significant or not significant, important or not important, valuable or not valuable – that the entire hierarchy of social interactions is built and strategies for behavior, communication are determined, decisions are made and a sequence of actions is formed and etc., as a result of which there is a transformation of the entire interaction system – additional values, profits, reproduction – capital – arise (or not). The value relationships of people, therefore, act as the backbone of human capital (Krzhevov, 2018; Panfilova, 2013; Razin, 2018). Such a position of fundamental importance for the present study about the role of people's values in capital formation has been repeatedly expressed by the classics of sociology K. Marx (Marx & Engels, 1974) M. Weber (Weber, 1990), G. Simmel (Simmel, 1996) and many others. This position about the important role of values in human capital research is increasingly drawn to the attention of modern researchers (Becker, 2003; Karacharovsky, Shkaratan, & Hawks, 2015; Lemanova, 2009).

Actually, therefore, the study of the subjective values of students and researchers of SECs, which are most able to influence the increase in profits and the production of goods and services (Fishman, 2019), is the basic position of this empirical study. In the discussion of methodological approaches to the organization of diagnostics, the authors' team (Deryugin, Shilyaeva, Sivokon, & Rasskazov, 2016) proceeds from the hypothetical assumption that in the value system of students and young researchers of the SEC, orientations on the business qualities of a person as components of human capital occupy a decisive place and are considered as a special value. In particular, as you study at the university where the SEC is based, the value of human capital, revealed through the qualities of people that ensure the growth of profits, incomes and capital, should increase. The increase in attention and recognition of the importance of the value of personal business qualities as students are trained will testify to the positive impact of the educational process on the training of a young specialist in the SEC as a future leader and manager.

3. Research Questions

We characterized the existing methodological foundations on the basis of which modern methods of empirical research of human capital are formed. Our study assumes the substantiation of the value approach to the study of human capital and the empirical testing of the method for diagnosing the values of the qualities of human capital, the tools of which are *the ideas of the network approach*. The object of pilot empirical research was students of universities in Perm, where in 2019 a SEC was opened on the basis of one of the universities. The subject of an empirical study is the study and comparison of

sociodynamic changes in the value of personal business qualities in the student value system in junior and senior courses, which subsequently substantially affect the activation of human capital in a market economy.

4. Purpose of the Study

The purpose of our study is to generalize theoretical and methodological approaches to the study of human capital and form a conceptual platform for developing a methodology that allows you to diagnose *the value of business personality traits in the student* value system based on a network approach, as well as conduct an empirical study of the sociodynamics of business value as important indicators of formation the human capital of an individual as students study at a university (SEC).

5. Research Methods

Students were offered to assess personality qualities – real people from their environment, as significant standards (values) for imitation. Among the proposed indicators were listed the qualities of a reference personality that characterize their *collectivistic* and *communicative competencies*, personal characteristics (a good person), and also qualities important for the *business sphere* (prosperity, determination, pragmatism, prudence, will, leadership – only 6 out of 24 qualities) (Deryugin, Rasskazov, Lebedintseva, & Sivokon, 2018). To process the materials, we used a software product created specifically for this study (the developer is a student of St. Petersburg State University "LETI" K.D. Danilov). Computer modeling of value networks allows you to visualize and study the value potential of the network depending on the many characteristics of the respondents such as age, gender, education, place of birth and place of residence, experience in managerial work and work in organizations of various types. The method of online survey was used, which covered 248 students of 1–4 courses, the survey was conducted in November-December 2019.

6. Findings

Firstly, it was recorded that in general, business qualities in the system of values of Perm students occupy the lower levels of the hierarchy. And although the dynamics of growth of these values is the highest, even for 4th year students the value of the business qualities of the individual remains minimal (Table 01).

Table 01. The value potential of networks (DSP)

Qualities	Communicative	Collectivist	Good man	Business
1 course	2,1	2,21	1,78	1,54
4 course	2,77	2,61	2,45	2,41
Dynamics	0,67	0,40	0,67	0,87

Secondly, in the first courses, the value of business qualities in young men is much higher than in girls (VPN 3.27 and 1.89, respectively). During the training period, the value of business qualities in young men increases slightly, unlike girls, where their significant growth is noted (the growth of values in boys is 0.12; in girls, a significant increase is 1.17) (Table 2).

Table 02. Dynamics of growth in the value of qualities from 1 to 4 course

Qualities	Communicative	Collectivist	Good man	Business
Young men	0,36	0,032	-0,06	0,12
Young girls	0,95	1,25	0,93	1,17

Thirdly, during the training period, the hierarchy of values is substantially transformed: for example, in the 1st year the quality rating of leadership is recognized as the most important, while in the 4th year its value is reduced to the fourth level.

Fourth, during the training period, value networks become more dense (solid lines), and the system of conflicting antivalues (dashed lines) changes (Figure 01).

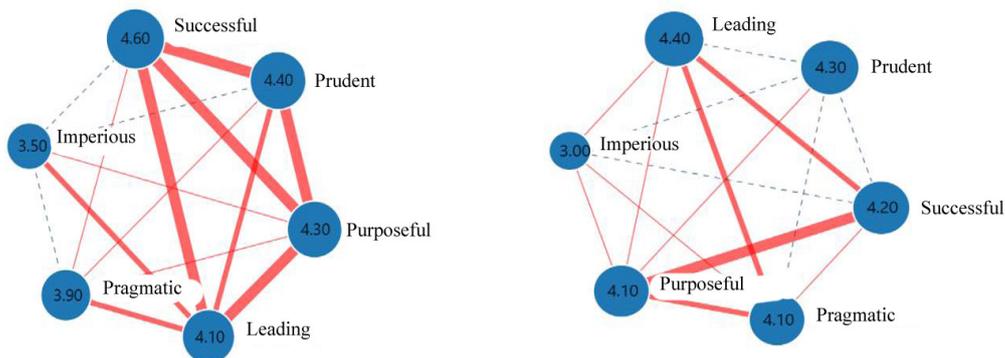


Figure. 01. Networks of values of business qualities at the 1st and 4th courses

7. Conclusion

The choice of the value of the qualities of human capital as a direct object of diagnosis allows us to say that such diagnostics, carried out on the basis of a network approach, has a good perspective in terms of content, methodology and management:

- in a *substantive sense*, diagnostics is directed to a central phenomenon that plays the role of a *connecting force that unites all other elements* on the basis of which human capital is formed – to values;
- *methodologically*, such diagnostics reflects the *dynamics of the formation of values and has visibility*, which is important for managing the pedagogical process in universities with SECs based in them;
- in a *managerial sense*, such diagnostics creates the possibility of its implementation in other SECs, which in turn allows *the formation of an empirical database for comparative studies* in regional SECs.

The limitations of the network diagnostics of human capital values include its isolation from the specific end results of people's activities, which, in turn, can be regarded as a promising goal of new research on a designated topic.

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References

- Andreeva, T., & Garanina, T. (2017). Influence of intellectual capital on the performance of Russian manufacturing companies. *Foresight, 1*.
- Anikin, V. A. (2017). Occupational propensity for training in a late industrial society: evidence from Russia. *International Journal of Training and Development, 21*(4), 249-284.
- Arabyan, K. K. (2007). Measurement of human capital. *Russian Entrepreneurship, 4*, 105.
- Becker, G. S. (2003). *Human Behavior: An Economic Approach. Selected works on economic theory*. Per. from Engl. Comp., Sci. ed. R.A. Kapelyushnikov; foreword M.I. Levin. Moscow: GUVSE.
- Bobylev, S. N., Tikunov, V. S., & Cherry, O. Yu. (2017). Assessment of the social development of the regions of the Russian Federation. Methods of geographical research. *Vestn. Moscow. un-ta. Ser. 5. Geography, 1*.
- Bobylev, S. N., Tikunov, V. S., & Cherry, O. Yu. (2018). *The level of development of the digital economy in the regions of Russia*. Moscow: Moscow University Herald.
- Dementiev, V. V., & Scherbakov, A. P. (2017). Profit and economic growth. *Space of Economy, 3*.
- Deryugin, P. P., Rasskazov, S. V., Lebedintseva, L. A., & Sivokon, M. V. (2018). Two methodological approaches to the diagnosis of values in modern corporations. *Fourth Industr.Revolut.: realities and modern challenges. X anniversary St. Petersburg sociological readings. Coll. of mater.of the Int. Sci. Conf.* (pp. 158–161). (Petersburg, Russia, 13–14 April 2018). St. Petersburg: Publ. house Polytechnic. Univer., 896 p.
- Deryugin, P. P., Shilyaeva, A. S., Sivokon, M. V., & Rasskazov, S. V. (2016). Value-targeted reflection as the basis for the diagnosis of organizational culture in a network approach strategy. *Discourse, 3*, 99–110.
- Fishman, B. E. (2019). About Subjectivity of a University Student in Educational Activity. *Vysshee Obrazovanie v Rossii= Higher Education in Russia, 28*(5), 145-154.
- Gitelman, L. D., & Kozhevnikov, M. V. (2018). The paradigm of managerial education for a technological breakthrough in the economy. *Journal of Regulatory Economics, 2*.
- Glukhov, P. S., & Gryazeva-Dobshinskaya, V. G. (2018). Management orientations in relation to personnel and value-semantic assessment of employees by managers of production enterprises. *Vestnik SUSU. Series Psychology, 4*.
- Grigoriev, K. V., & Dyatlov, V. I. (2012). From the research center to the research network: ethnomigration and diasporal studies at the SEC MION at ISU. *Bulletin of the Irkutsk State University Series Political Science Religious studies, 2-2*.
- Gruzkov, I. V. (2011). Ideas and experience in the classification of human capital. *Space of Econ., 2-3*.
- Karacharovskiy, V. V., Shkaratan, O. I., & Hawks, G. A. (2015). Can't Russia be raised by labor? *Russian culture of work and foreign influence*. Moscow: Country 03.
- Katkova, Yu. O. (2008). Personnel-oriented company: HR-service. *Bulletin of RUDN University Series Sociology, 2*.

- Krzhevov, V. S. (2018). On some methodological problems of the theory of the humankind progressive development. *Moscow University Bulletin Series 7, Philosophy*, 5.
- Lemanova, P. V. (2009). Essence of human capital at the present stage of development of society. *Space of Econ.*, 3-2.
- Martsinkevich, V. I., & Soboleva, I.V. (1995). *Human Economics*. Moscow.
- Marx, K., & Engels, F. (1974). Soch., 2nd ed. Vol. 46, part 1. 2nd ed. Moscow: Polit. Liter. Publ. House.
- Myzin, A. L., & Gurban, I. A. (2011). Problems of assessing human capital in the context of a study of the national wealth of Russian regions. *Reg. Econ.*, 1.
- Panfilova, T. V. (2013). Human capital in the light of the value problem. *Vestnik MGIMO*, 3(30).
- Plaksunova, T. (2009). Human capital in an innovative economy. *Space of Economy*, 4-3.
- Razin, A. V. (2018). Activity and passivity: arguments for and against. *Bulletin of Moscow University*, 7(2).
- Rozontova, D. V. (2014). Influence of psychological and pedagogical conditions on the process of adaptation of schoolchildren of the SEC ISEDT RAS. *Quest.ofterritor. Development*, 2(12).
- Rozontova, D. V., & Kulakova, A. B. (2014). Formation of communicative abilities of students in a developing environment SEC ISEDT RAS. *Probleme of Territory Development*, 5(73).
- Simmel, G. (1996). Favorites: in 2 vol. Vol. 2. *Contemplation of life*. Moscow: Lawyer.
- Smyslov, D. A. (2007). Construction of the indicator of human capital of social groups. *Appl. Econometr.*, 2.
- Stepanova, O. M. (2012). Reproduction and measurement of human capital in the modern world. *Vestnik RUDN. Ser. Sociol.*, 3.
- Tikhonova, N. E. (2012). The human potential of Russian modernists and the prospects for modernization in Russia. *Space of Econ.*, 1.
- Weber, M. (1990). *Selected Works*. Moscow: Enlightenment.
- Zgonnik, L. V. (2007). Essential certainty of the category "Human Capital". *Space of Econ.*, 4-2.