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#### COMPETITIVENESS OF HUMAN CAPITAL OF YOUTH: DETERMINANTS AND EVALUATION MODEL

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#### *Abstract*

Increment of human capital and increase in its competitiveness become the determining direction, characterizing the viability of economy and ensuring high standard of living in the country and a leading place in the world economic system. Global trends in economic development of a post-industrial type convincingly prove that competitiveness formation of the human capital of youth is one of the most pressing challenges facing modern economy. The basis for the formation and development of competitiveness concepts of the human capital youth is research aimed at studying and justification of the structural and substantive basis of competitiveness. The toolkit for evaluating the competitiveness of most existing approaches and the used linear dependence of quantitative values of the competitiveness components and the resulting value do not fully reflect the actual level of competitiveness. In this regard, the article substantiates the need to expand theoretical and applied approaches to the evaluation of the competitiveness level of the human capital of youth, regarding the strategies of youth behavior on labor market. The determinants of competitiveness of the human capital of youth are identified and their relevance to market demand is determined. A mathematical model assuming the calculation of the competitiveness indicator is proposed. In the course of the study, profiles of young specialists, including the development degree of each variable and the resulting value - competitiveness indicator are obtained. The advantages of using the proposed model for evaluating the competitiveness level of the human capital of youth are defined.

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**Keywords:** Human capital, youth, competitiveness, employment, potential.



## 1. Introduction

Modern social economic paradigm, along with the technological breakthrough and sustainable economic growth, determines human development as the basis for the successful development of a post-industrial economy and the main criterion of social progress. Increment of human capital and increase in its competitiveness become the determining direction, characterizing the viability of economy and ensuring high standard of living in the country and a leading place in the world economic system.

Special attention is paid to the human capital formation of youth, to the conditions for realization of the human and labor potential of Russian university graduates, young professionals. The younger generation, being a strategic and reproductive resource of the state, is the bearer of the most promising part of human capital.

Young people in Russia, as a social demographic group, face a number of challenges affecting their social economic position: demographic (increase in demographic burden on young people due to aging population, low birth rate); regional (problems of youth labor and educational migration and mobility); financial (growth of property stratification, low incomes); social (problems of a young family, deterioration of health indicators, criminalizing atmosphere of youth environment); economic (lack of labor motivation among young workers, lack of skills in social activities and self-government, low degree of involvement in the system of state management, consistently high level of youth unemployment) (Seregina, 2016).

According to information of the Ministry of Health and Social Development of the Russian Federation, Russian youth and the development of their potential are influenced by such positive factors as high socialization and learnability, improving the quality of education (formal, non-formal, informal), growth of entrepreneurship among young people, economic activity and labor market mobility, readiness to different activities (studies, work, social activities, etc.). Moreover, it is noted that a significant part of university graduates (up to 60% of young specialists) are employed in accordance with their education.

Thus, youth position is ambiguous in modern economy. For most young people, the issue of high-quality employment becomes problematic due to increasing demands from both employers (requirements for professional knowledge and skills, personal and business characteristics) and from youth (inquiry regarding conditions and wages).

## 2. Problem Statement

The basis for the formation and development of competitiveness concepts of the human capital youth is research aimed at studying and justification of the structural and substantive basis of competitiveness, as well as developing or adapting tools and methods for evaluating its components. For most studies, the structural content of competitiveness components is characterized either by a set of qualitative characteristics of young people (professional capacity, personal qualities, marketing potential, motivational potential, etc.) (Poldolina, 2003), or by a set of competencies (professional qualifications, personal, motivational, business) (Dmitrieva, 2011). The resulting value in the existing scientific approaches is the competitiveness level, which is defined as the completeness of components' formation and (or) the degree of their deviation from the specified values (labor market requirements). Real competitiveness of youth

human capital does not occur when diagnosing, because young professionals are proposed to assess their potential independently.

Thus, the toolkit for evaluating the competitiveness of most existing approaches and the used linear dependence of quantitative values of the competitiveness components and the resulting value do not fully reflect the actual level of competitiveness.

Moreover, most approaches to competitiveness evaluation are only based on the assessment of the formed components of competitiveness and do not take into account primary labor activity, if it exists (Poldolina, 2003; Reznik & Sochilova, 2010). Competitiveness evaluation, considering work experience, is based on the diagnosis of potential employment opportunities of young specialists (Zolotareva, 2012) and (or) professional competencies designed by the educational program (Dmitrieva, 2011).

Only studies in recent years indicate a relationship between the professional potential of young people and their position on labor market. In this regard, we believe that assessing the actual level of competitiveness and expanding the research approach in this area, it is necessary to develop a toolkit for competitiveness evaluation of the human capital of youth, taking into consideration the strategies of young people's behavior on labor market.

### **3. Research Questions**

Methodological basis for the competitiveness study of youth human capital are: theory of competitive advantages by Porter (1990); theory of human capital by Becker (2003); theory of educational signals by Spence (1974), theory of competences by Spencer and Spencer (2005); a number of theoretical developments in the field of competences of the specialists Boyatzis, Cowen, and Kolb (2003), McClelland, Spencer, and Signe (1990); theory of social capital by Ben-Porath (1980), Stone (2007) and others. The research used the achievements of Russian authors in the field of competitive characteristics and competencies of young professionals by Dmitrieva (2011), Karra (2011), Roshchin and Rudakov (2016) and others.

The human capital of youth as an economic category of a modern innovation and information society is the formed, as a result of investments, and accumulated stock of health, knowledge, skills, abilities and motivations that are appropriately used for effective employment, as well as professional and personal development, productivity and income increase.

In turn, the competitiveness of the human capital of youth is a complex concept, expressed on the one hand in the ability of young people to social and psychological development and increment of personal human capital; on the other hand, to possess professionally meaningful knowledge and skills for every young professional, as well as the ability to manage their competitive advantages for the purpose of effective employment and professional implementation.

The structure of the competitiveness of youth human capital is determined by the variables - the determinants that define the competitiveness level.

#### **4. Purpose of the Study**

The competitiveness of youth human capital, as the resulting value of effective employment is described a complex of variables - determinants. The review of determinants in theoretical and applied research confirmed the consistency of their substantive content, and the expediency of the choice of studied variables requires testing the hypothesis about necessary and sufficient set of variables that determine the competitiveness level. The main purpose of this work is to evaluate the competitiveness of the human capital of youth based on selected variables - the determinants of competitiveness, with subsequent validation of the data.

#### **5. Research Methods**

A theoretical and applied research was carried out in the course of determining the competitiveness determinants of youth human capital. Statistic data, including employment monitoring at studied universities, specifying the average salary and job search period (minimum, average and maximum) were collected. In addition, sociological surveys of employers to establish compliance with the identified determinants of the market request were conducted.

Target requirements of employers, characterized by their heterogeneity, were formed by the method of expert assessment and conducting in-depth interviews.

The empirical base volume was chosen spontaneously by the non-repetitive method of selection. We used the formula for calculating the volume of self-random sample to determine required amount of the empirical base. Initially, the empirical base amount of young professionals was 450 people. However, when processing the questionnaire data, it turned out that some of the questionnaires did not correspond to the principle of completeness of collecting information about the studied phenomenon. Therefore, 430 observation units were subject to basic analysis. The volume of the empirical base of employers was 150 units.

#### **6. Findings**

Foremost, to analyze the competitiveness of the human potential of youth, it is necessary to identify the factors that determine the structure of competitiveness and their substantive content. First, the quality of education, due to the quality of university, the relevance of the field of study and academic performance, has an impact on the formation of the human capital of youth, as well as on the level of their competitiveness. Second, abilities are the key characteristic assessed by employers in the conditions of heterogeneity of young professionals, based primarily on a different level of human capital, which in turn is determined by innate abilities. Social (family) capital affects the development of innate abilities, as well as increasing human capital through education, and, therefore, is directly proportional to the level of competitiveness of young professionals: the higher the family income and the education of parents are, the more likely the higher the competitiveness level of an individual. At the same time, the competitiveness level of the human capital depends on their social demographic characteristics, which are easily observed indicators of potential productivity for employers. The developed strategies of young people behavior on

labor market have a significant impact on the formation of competitiveness, because they contribute to the accumulation of seniority and experience of interaction with agents of the labor market:

- combination of work and study. On the one hand, employers prefer graduates with work experience, on the other hand, due to the “effect of co-education”, employers deal with workers with a low level of education. In this regard, graduates with little work experience will need to improve their educational level, and employers who do not have the means to invest in young specialists will be less interested in hiring this category of workforce. In general, such a situation may cause even greater devaluation of education for all participants in labor relations;

- behavioral competencies (“employability” and “marketability”). At the same time, the intensity of the job search correlates with the efficiency of search, reducing or increasing the period of job search, the period of obtaining work corresponding to the needs of the individual, etc.;

- mobility for jobs. For instance, the theory of “job shopping”, as a model of job search, relies on the heterogeneity of workers, jobs and the asymmetry of information on labor market. Young professionals entering the labor market do not have an accurate idea of what area they would like to build a career in, try themselves in completely different positions and posts; as a result, they prefer the one that meets their requirements to a greater degree. Job matching theory (“job matching theory”) also proceeds from the presence of asymmetric information and is based on the fact that young professionals move around the workplaces in order to select a better fit between their characteristics and requirements of the workplace. Moving around workplaces lasts until the most effective match is found.

Variable-determinants of competitiveness were identified in numerical values using various methods of expert assessment: ranking, direct assessment and the method of pairwise comparison. Each variable was assigned a numeric value, depending on the degree of each determinant development. For example, according to a sociological survey, high quality of a university for an employer is determined by belonging to universities of exceptional legal status (MSU, SPbU), the status of a national research university (NRU HSE), the status of a federal university (SFU, NCFU).

A mathematical model of competitiveness was used to evaluate the human capital competitiveness, assuming calculation of the competitiveness indicator of f:

$$f(x_1, x_2, \dots, x_n, t) = \sum_{k=1}^n c_k(t)x_k + \sum_{k \neq j} c_{kj}(t)x_k \cdot x_j + \dots + c_{12\dots n}(t)x_1 \cdot x_2 \cdot \dots \cdot x_n$$

$x_1, x_2, \dots, x_n$  - determinant-variables of competitiveness,

$x_k \in [1, a_k]$  with some  $a_k > 1$ ,  $k = 1, 2, \dots, n$ .

$c_k(t), c_{kj}(t), \dots, c_{12\dots n}(t)$ , - a switch that can take only two values: 0 and 1, which is determined by the time factor. Only one of the switches has a value of 1, and the others are equal to 0. A switch which is other than 0 depends on the number of relevant parameters  $x_1, x_2, \dots, x_n$ .

In accordance with this model, the competitiveness indicators of each object of the empirical base were calculated. The profiles of young specialists obtained in the course of the study, including the development degree of each variable and the resulting value – a competitiveness indicator, were subsequently compared with the estimates of employers of the same young professionals. In 95% of cases, young professionals having the maximum value of the competitiveness indicator received a job offer.

## 7. Conclusion

The authors have defined a set of characteristics at the first stage, which determine the graduate of the university as competitive. Competitiveness components are the basis for identifying groups of characteristics of a competitive graduate (professional qualification, personal, social and business), and the survey results. The survey results show that the most preferable characteristics for employers are work experience and professional quality of graduates (more than 50%). The least significant characteristics are the average diploma score and recommendations from acquaintances, friends and relatives. In addition, when hiring the graduates, employers try to determine their motivational orientation to identify the desired level of salary, forecast labor productivity and career opportunities for young professionals. According to the survey results, employers emphasize the focus on professional and career growth (56.8% and 50.6%, respectively).

We have also analyzed the motivational orientation of university graduates with the view of comparing with preferences of employers and identifying possible discrepancies. The main motives of university graduates to labor activity are high salary (68.3%) and a further career growth (48.4%), contributes to the satisfaction of social status and economic groups of needs, inherent in young professionals.

Thus, the apparent discrepancy between the preferences of employers and the motivational orientation of graduates is one of the reasons for the refusal to employ young professionals. On the other hand, we should note that employers do not have the ability to satisfy their preferences for the motivational orientation of graduates (the management system for additional training of specialists is missing in 63% of organizations), as well as the needs of university graduates (management system for professional promotion is in 32% of the organizations studied).

Having considered the characteristics of graduates that are significant for employers, it seems appropriate to regard labor market requirements in the process of teaching students at a university. According to our research, 39.5% of employers surveyed (28.1 + 11.4%) are aware of the need for cooperation with universities, 11.4% of which cooperate on a regular basis, and the rest - as the need for young professionals arises. It turns out that the highest degree of compliance with labor market requirements is traced to the elements of the personal component (average deviation of the personal component from the requirements of employers is 22.2%, the lowest - among the elements of the professional qualification component (average deviation is 37.2%).

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