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The Human Capital as a Factor of Competitiveness and Economic Development

Zaure K. Chulanova*

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Abstract

Purpose – The purpose of this paper is to rationale the new approach to analysis of the human capital as a factor of effective development of a national economy and increase the level of country's competitiveness.

Research design, data, and methodology - This research aims the furthest development of the conception in human capital formation. The study made on the base of the methods with scientific classification and systematization, that is, comparative, statistical analysis, economic-mathematic method, and expert assessment and ratings.

Results - This research attempted to measure the correlation between the human capital elements and the level of country's competitiveness. The study revealed that formation of the competitive human capital cannot be considered in separation from the development and modernization of education system, the improvement of employment sphere, and the creation of effective interaction between them through the system of professional skills.

Conclusions - The competitive human capital formation is one of the most important goals in the innovative economy construction and modern development, and it is also indispensable subject. Especially in the condition of economic crises, the necessity of formation and development of the effective human capital is considerably increasing. Realization of this task requires the development and stimulation of all the factors influencing the growing human potential.

Keywords: Human Capital, Professional Skills, Education System, Assessment, Ratings.

JEL Classifications: J24, I23.

1. Introduction

The subject of the research is to rationale the new approach to analysis of the human capital as a factor of effective development of a national economy, which directly affects the level of country's competitiveness. Methods of research includes structural, functional and comparative analysis; scientific classification and systematization; dialectical method and the method of scientific abstraction; economic-mathematic, statistical analysis; expert assessment and ratings.

The main richness of any country in all times is represented by its human capital. Human capital in its essence appear as a rich complex of accumulated values provided by demographic characteristics, education, employment, standard of living, social space, psychological and environmental issues. So, the human development of country is considered in close relation with economic growth, economic competitiveness, and rising of living standards.

We can say that in the XXI century the main factor, determining an economic potential of a state, is considered by its ability to adapt to rapidly changing world technique conditions. This refers to "a new quality of economic growth", based on application of knowledge and new technologies as a result of effective use of human resources. Competitive country development at the basis of new technologies requires the high quality specialists who will be able to use accumulating experience and knowledge. The hire quality characteristics of workers is of primordial importance for successful appliance of sophisticated technologies and electronic equipment. Among a complex of economic and organizational factors of creation of the innovative economy the most significant is the human capital at the base of which are education, professionalism and intellect. Accordingly, the formation of competitive human capital is regarded as one of priorities and the most important areas of modern development. This requires new approaches to this phenomenon study. For successful development of the countries development strategies it is important to identify which elements have greater influence

* Head of Department, Institute of Economics under the Committee of Science of the Ministry of Education and Science of the Republic of Kazakhstan, Almaty-city, Kazakhstan.
Tel: +7-727-261-2177, E-mail: zaure.ch@mail.ru

on economic growth and are the most effective for development.

2. Literature Review

2.1. Theoretical Aspect of the Human Capital Development

The Human capital theory as economics subject was formed gradually. In evolution process the concept has undergone a significant transformation from earliest time to present day. The idea of human capital in one form or another has been laid by the classics of economics, sociology and history. Basic methodological positions relative to capital as the main form of wealth were developed by such scientists of antiquity and the Middle Ages as Aristotle, Thomas Aquinas, John Calvin etc.

One of the first attempts to rationale the economic substance of the capital was made by François Quesnay, who believed that “money alone is fruitless wealth that produces nothing ...”. In his “Economic Table” F. Quesnay showed how productive costs form the basis of reproduction of the capital, proposed to begin consideration of the capital as consisting of "advances" or investment (Quesnay, 1752).

William Petti in his “Political Arithmetic” for the first time expressed the view that the capital may have non-real form and noted the value of human abilities. However, W. Petty described these “living active forces’ as an element of “wealth and reserves of the country” that should "be assessed equally and participate in covering the needs of the public" (Petty, 1690).

Adam Smith noted in his “The Wealth of Nations” that the increase in labor productivity depends primarily from increasing agility and skill of a worker, and that the acquired and useful abilities of a person are part of the society wealth. Human capital by A. Smith has a capitalized value of “acquired and useful abilities of all citizens and members of society” (Smith, 1776). He drew an analogy of material and immaterial capital, the first indicates that knowledge and skills are the “phenomenon of long-term action.” The costs of education and training of a person can be considered as investments in its ability to earn in the future, which then allows a person not only to recover these investments, but to make a profit: “It is expected that the work, which the person is trained, will reimburse him all costs spent on training, with the usual, at least, return of capital, equal to the sum of these costs” (Smith, 1776). Moreover, A. Smith in this approach to the human capital concept explained the reason for differentiation of employee's salary, and finally, of the human life level.

Later the concept of A. Smith was reflected and further developed in the works of Jean-Baptiste Say. In the “Traité d’économie politique” he noted that accumulate capital is “prepare supplies, shelter, recreation, education, independence, dignity for future generations” (Say, 1803) However, he pointed that people was not born with ability and strength sufficient for the job. Useful skills and abilities J.-B. Say considered as a form of immaterial capital, formed as a result of the annual savings, calling it a “productive sum”, which overlaps with the concept of “produced means of production” of A. Smith.

John Stuart Mill in the “Principles of Political Economy”, basing on the concepts of A. Smith and J.-B. Say, characterized the productive labor as work that created wealth, constituting the essence of the idea of wealth that can be accumulated. According to J. S. Mill in the category of a country's wealth "the skill, energy and determination of workers" should be included (Mill, 1848).

Later, in the second half of XX century the concept of human capital was transformed in an integrated theory through studies of the "Chicago school" representatives. In the development of the modern concept in human capital, a huge role played works of American scientists and economists Theodore Schultz and Gary Becker, who considered the human capital as the saved-up expenses for labor force reproduction (Schultz, 1968). They used in their research the tools of neoclassical school about social institutions, assuming that people invest in education, health, migration, and other activities in order to allow them to get big profits in the future (Schultz, 1971). This type of capital is accumulated as result of people’s ability to work, to creative activity, necessity to maintain the living standard, to increase the welfare, etc. (Becker, 1964). So, at the core of many definitions the human capital was considered as a part of a kind of capital in form of expenses, revenues and profits (Dornbusch, Fischer, & Schmalensee, 1987).

At the same time, some authors, recognizing that the decisive factor in the economic development of society has always been a human being, attach the greater importance to the quality parameters of human resource development. The category of "human capital" is conceived as a qualitative dimension, characterized by level of education, income and ability to increase workers productivity, contribute to the overall economic development (Sidorovich, 2001).

However, we should say that to date there is no clear unambiguous definition of the essence of the human capital. Many researchers consider only its certain aspects. In recent years in the scientific publications and reports of international organizations concept of "human capital" was widely used along with terms such as human resources, human potential, labor potential. Various methodological approaches to the human capital study led to unequal definition of its nature (Kuznets, 1973; Tnurow, 1970).

The concept of human development of UNDP (introduced by first in 1990 in the Human Development Report) focuses at the human being and proclaims the main and the only objective of development – to ensure welfare of people. It assumes creation of the favorable political, economic, social and ecological environment, which would allow people to live long, healthy, and creative life. This concept allocates two

parties of human development: the first considers formation of human abilities, improvements of knowledge and health, and the second – use of these abilities for work and leisure.

2.2. Factors of the Human Capital's Formation and Development

Study of many sources leads to the conclusion that the human capital formation and development determine by interacting of many factors, which can be divided into external and internal.

External factors of formation and development of human capital are largely determined by the current and expected situation in the world economy. The global economic system is influenced by the complex of global processes as of positive nature as of risks. The dominant tendency of the world development - globalization of all spheres in human activity acquiring a planetary scale. Its impact on human capital formation in different countries depends on level of their integration into the global economy. Certain factors, such as international migration, and especially illegal labor migration, have in scale negative impact on employment and the labor market (Glazyev, 2009).

The human capital formation in order to increase competitiveness of national labor resources at the external labor market should be based on development of the latest technologies to create the appropriate social and economic environment for transition to a higher technological wave. Such factors as the international labor differentiation, structural changes in the developed economies will strengthen their impact on economic specialization in world scale. This causes necessity of modernization, restructuring economies of developing countries, and increases demand for professional labor of certain occupations and qualifications both at the domestic and international labor markets.

Internal factors of human capital formation are represented by a large set of conditions needed for its development. Primarily they are determined by stability and economic sustainability of country, the prospects of industrial-innovative development of the national economy. At the same time, it should be noted that a high level of human capital as it-self does not provide a high rate of economic growth. There exists the close relationship between all components of human capital. Formation and development of human capital depends on the current and expected demographic situation - the age and sex structure, life expectancy – which are closely attaches to the qualitative development opportunities (Cherkovets, 2009).

Changes of quantitative parameters could affect the improvement or deterioration of quality characteristics of human capital. Very important factor are conditions in which workers interact in the production process, which in connection with their possibility to get quality education, possibility to evince their personality and entrepreneurial capacities, also territorial and professional mobility depends of state social policy.

The particular importance as a factor of the human potential development is attached to intellect. Intellectual potential is based on interaction of intelligence and creative productivity with processes of people's life providing. In a market economy, the special place has an entrepreneurial potential, which is presented as an opportunity to achieve an increase in economic growth of a country through the entrepreneurial skills development, jointed with optimization of practical purposes on the basis of intellectual and organizational abilities.

Entrepreneurial skills should be viewed as a key factor of economic growth, activation of which is obtained through application of scientific management. Realization of entrepreneurial skills is reflected in the entrepreneurship development (Samuelson, 1948).

Another kind of potential - the business potential is closely linked with the personal potential that characterizes the internal physical and spiritual energy of person, the position of its activity aimed at creative expression and self-realization.

The potential possibilities of human resources are so closely intertwined that it is difficult to differentiate them. Therefore, the study of human capital requires a comprehensive approach.

2.3. Human Capital and Professional Skills in Innovative Economic Development

Transition of the world economy to the innovative development ways is accompanied by changes in the current structure of employment, emergence of new trends and forms of employment. Increase of qualification requirements for workers causes transformations in the demand at the labor markets. According to experts, every year in the world economy over 500 old professions gone and more than 600 new appear. At the end of the last century it was sufficient to have a higher education for 20-25 years of practical experience. Today the most effective activities of worker are 5-7 years, and in the spheres determining scientific and technical progress - 2-3 years. The biggest changes are observed in the qualification skills of technical professionals, managers and administration of services trade. Least of all qualifying changes affected the agricultural production (Chizhova, 2011).

A survey conducted by OSCE (OSCE, 2011) found that in certain countries 13% of employees believe that their existing qualifications are not enough to execute their official duties. At the same time 33.5% of the respondents consider themselves overqualified for their current job. However, even in the midst of the 2009 crisis, more than 40% of employers in Australia, Japan, Mexico and Poland reported difficulties in hiring employees with the necessary qualifications.

So, it can be say, among a complex of economic and organizational factors of creation the innovative economy the

most significant is the human capital at the heart of which are education, and professional skills. Under these new conditions exactly human capital is becoming the strategic resource of country. In the modern type of economic growth at the base of using knowledge and innovations the national wealth only for 5% consist of natural resources, for 18% – of the material (production) capital, and the main share – 77% is accounted for knowledge and ability to use it. Today namely the human capital turns the source of welfare as for the person, as well for the society. In complex, all this changes the competition nature at the global markets and determines the place of a country in the global economy. So, it is logical to say that today, in fact, there is a competition of the human capital of different countries (Chulanova, 2004).

Development of professional skills – as well traditional as new skills - initially requires workers to obtain the higher qualifications with great attention to increasing elements of creativity in the labor process. Under the post-industrial economy the crucial role belongs to the sphere of intellectual services, which is inextricably linked to material production, which continuously transforms it through using new technologies.

So that, the human capital assessing should be considered a three-tiered approach: the individual - accumulation of knowledge, education of a worker; human capital of corporation; and human capital of a country. In other words, the study should be conducted at the microeconomics and macroeconomics level. Formation of a workforce of higher quality assumes increasing responsibility in particular of the employee and the state. The mission of the second is to encourage and create favorable conditions for labor market process, in order to ensure a high quality of life, which is one of the major factors for effective development of human capital.

Today the active employment policy, assuming the training of skilled workers to get them ready to meet the innovative economy needs is of paramount importance. Employment policy should promote professional and territorial mobility, formation of the new labor mentality, and rise the role and importance of corporate social responsibility in the training and retraining.

In view of the foregoing, we can formulate the following definition of "human capital": human capital - is a set of accumulated knowledge, education and human resources professional, that will improve the productivity in terms of industrial-innovative development of the country and the impact of costs and investments in people, ensuring the competitiveness of and the stability of the national economy to achieve a high quality of life.

3. Methodology and Summary Statistics

To identify the factors that have the greatest impact on human capital formation, we used the methods of rating and statistical and comparative analysis of indicators forming the indexes of human development and competitiveness.

To calculate the correlation between the level of human capital development and the national economy competitiveness index we use the Spearman's rank correlation coefficient that represents a nonparametric measure of statistical dependence between two variables (Spearman, 1904). It assesses how well the relationship between two variables can be described using a monotonic function.

3.1. Interrelation between the Human Capital and Competitiveness Indexes

In this study, among the many approaches to evaluation, we chose as a tool for definition of level of social and economic progress the Human Development Index (HDI) (UNDP, 1991-2015). It includes life expectancy, an education level of adult population (measured on the basis of indexes of literacy and availability of education), and corrected real gross domestic product per capita (the special indicator of material well-being).

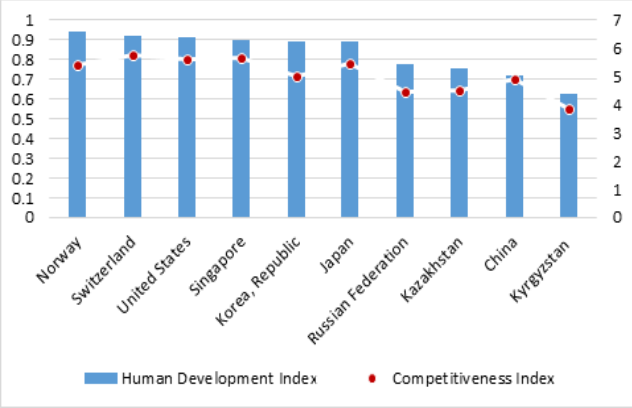
<Table 1> Human development index and its components, 2015

HDI rank	Countries	Human Development Index (HDI)	Gross national income (GNI) per capita	Life expectancy at birth	Mean years of schooling	Expected years of schooling gross
Very high human development countries						
1	Norway	0.944	64992	81.6	12.6	17.6
3	Switzerland	0.930	56431	83.0	12.8	15.8
8	United States	0.915	52947	79.1	12.9	16.5
11	Singapore	0.912	76628	83.0	10.6	15.4
17	Republic of Korea	0.898	99890	81.9	11.9	16.9
20	Japan	0.891	36927	83.5	11.5	15.3
High human development countries						
50	Russian Federation	0.798	22352	70.1	12.0	14.7
56	Kazakhstan	0.788	20867	69.4	11.4	15.0
90	China	0.727	12547	75.8	7.5	13.1

HDI rank	Countries	Human Development Index (HDI)	Gross national income (GNI) per capita	Life expectancy at birth	Mean years of schooling	Expected years of schooling gross
Medium human development countries						
109	Turkmenistan	0.688	13066	65.6	9.9	10.8
114	Uzbekistan	0.675	5567	68.4	10.9	11.5
120	Kyrgyzstan	0.655	3044	70.6	10.6	12.5
Low human development countries						
187	Niger	0.348	908	61.4	1.5	5.4
	World	0,711	14301	71.5	7.9	12.2

Source: Human Development Report 2015, Work for Human Development, UNDP, 2015.

The statistics shows that there is an obvious connection between the saved-up human capital of a country and efficiency of its use, and national economy competitiveness. The indexes characterizing development level are interconnected and complemented (<Figure 1>).



<Figure 1> Indices of Human development and Competitiveness by world countries

It is obvious: the first positions in competitiveness ratings belongs to countries staking on innovation, ability to create and to use the new ideas. These countries in right time has understood that the economic policy focused on generation of knowledge and stimulation of innovations is impossible without the corresponding social policy aimed at the development of the main resource of all countries without an exception – the human being.

As a rule, the most competitive countries have high level of the human development index. For example, Switzerland has competitiveness index 5.76 (1st place) and human development index 0.917(the 2nd place), Norway – 5.41 and 0.944(1st place), the USA-respectively 5.61 and 0.914, Japan – 5.47 and 0.890, Republic of Korea – 4.99 and 0.898, etc.

As for Kazakhstan, according to the UNDP Human Development Report 2015, it was included into the group of countries with a high level of development of human potential, being at the 56th place among 187 countries of the world. The human development index 0.788 includes life expectancy at birth (69.4 years), expected years of schooling (15.0 years), mean years of schooling (11.4 years), GNI per capita (20867 US dollars). Kazakhstan, According to WEF, being in transition from the first stage "Factor-driven Economies" to the second "Efficiency-driven Economies" in 2015-2016 took the 42th among 140 world countries. Accordingly in the "Basic requirements" section the country is at the 46th place, "Efficiency enhancers" – at the 45th place, "Innovation and sophistication factors" – at the 78th place.

To calculate the correlation between the level of human capital development and the national economy competitiveness index we use the Spearman's rank correlation coefficient that represents a nonparametric measure of statistical dependence between two variables (Spearman, 1904). It assesses how well the relationship between two variables can be described using a monotonic function.

$$r = 1 - \frac{6\sum d^2}{n(n^2-1)}$$

where

d is the difference between the two ranks of each observation (rang A-rang B);

n is the number of observations.

Applying the Spearman's rank correlation coefficient to calculate the correlation between the indicators (rang A - the Global Competitiveness Index, rang B - the Human Development Index), we get:

$$r = 1 - \frac{6\sum d^2}{n(n^2-1)} = 1 - \frac{6x95893}{140\times(19044-1)} = 0.784$$

The resulting figure confirms the existence of a close relationship, and of directly proportional dependence between the level of competitiveness and human development. In other words, the higher the level of human development of the country the higher its level of competitiveness.

On the same basis, we calculated the coefficients of correlation between the level of competitiveness and a number of factors forming the human capital. We found also

the high level of closeness of the connection parameters between the Education level index and the Global Competitiveness Index, amounted to 0.816.

$$r = 1 - \frac{6\sum d^2}{n(n^2-1)} = 1 - \frac{6x81517}{140\times(19044-1)} = 0.816$$

The highest rate of connection closeness has been identified between the level of global competitiveness and factor "Higher education and training", reaching 0.905.

Therefore, using this approach we can conclude that among factors of human development the key factor in ensuring a country's competitiveness is the level of education and professional training.

Have highlighting from both indexes indicators related to education, vocational training and innovation, we obtain the following pattern. Countries occupying high positions in higher education and vocational training have a high status in innovation.

Thus, there is the apparent lag in terms of innovative development between Kazakhstan and developed countries creating and producing high quality products and new technologies. What are the reasons?

4. Finding and discussion

4.1. Parameters of Kazakhstan's Human Capital

Today Kazakhstan by economic reforms is ahead of many post-Soviet countries, including in the Central Asian region. However, despite its dynamic, economic development of the country is not without problems. Thus, the main source and the driving force of economic growth are incomes of production and export of oil and other mineral resources sectors. At the same time, there is a tendency of high selective activity of domestic investors in favor of construction, real estate and trade. For foreign investors, the most attractive is the oil sector. They both ignore the manufacturing industry. Thus, about 50% of borrowed funds accounted for mining industry, while on the manufacturing - only 11%. Naturally, with weak capitalization of non-extractive industries incentives to borrow advanced technology are week, technological backwardness preserved. Taking into account degree of the industry deterioration the production of products conforming to international standards cannot be considered.

In the leading competitive countries, more than 50% of GDP growth is ensured by the new high-tech industries, the share of exports in manufactured products is 40% of the total, while the share of imported products - more than 30%. According to a Ministry of Industry and Trade of the Republic of Kazakhstan, only 2% of domestic companies engaged in the development of new products or production processes.

The common problem for the countries producing hydrocarbons and other raw materials, is that they are developing by the same scenario, where everything depends on the market prices for primary products. In general, revenues from the extractive sector give countries a good opportunity to improve the economy and human development. We know many world countries providing economic growth thanks to natural resources, where the mining sector became the financial source for other industries. In particular, Qatar, the UAE, and Kuwait, investing in human capital, took enough high places in the world rankings 2015, respectively 14, 17 and 34 among 187 countries.

<Table 2> World competitiveness index ranking by countries, 2015-2016

	Overall Index	Rank Score by:					
		Health and primary education		Higher education and training		Innovation and Sophistication Factors	
		Rank	Score	Rank	Score	Rank	Score
Switzerland	1	11	6.5	4	6.0	1	5.8
Singapore	2	2	6.7	1	6.2	11	5.2
USA	3	46	6.1	6	5.9	4	5.6
Japan	6	4	6.7	21	5.4	2	5.7
Finland	8	1	6.9	2	6.1	5	5.5
Norway	11	10	6.5	7	5.8	13	5.2
Korea, Rep. of	26	23	6.3	23	5.4	22	4.8
China	28	44	6.1	68	4.3	34	4.1
Kazakhstan	42	93	5.4	60	4.5	78	3.5
Russian Federation	45	56	5.9	38	5.0	76	3.5
Kyrgyzstan	102	98	5.3	80	4.1	122	3.0

However, for many countries possessing rich natural resources characteristic is the technological lag in manufacturing. The lack of qualifications of national personnel results a large number of foreign workers in the industries and the social sphere. Under the globalization influence they becomes suppliers of raw material. These countries face a choice: to remain a raw materials appendage of the world economy, or to carry out an accelerated economic and social modernization, based on improving of quality of labor potential in order to become one of the countries that produce high-tech products.

This is a problem for the Central-Asian countries. In the global economic structure, having rich natural resource potential, are considered as countries supplying at the world market fuel, energy and mineral resources. The main driving force of economy of some countries in this region are the industries involved in production and export of raw materials, with a relatively weak development of non-oil sectors. Thus, they become the subject of very strong risk due to volatility in global commodity prices.

As we have seen the formation and development of human capital is associated with effective system of education and professional training. The analyses show: situation at the Kazakhstan labor market suffers a shortage of skilled labor force. 5.5 million people has higher and secondary professional (vocational) education had, or 64.6% of the employed population. The self-employed population forms a third of the economically active population of the country, 62% of them are employed in the agricultural sector, being in fact low-skilled workers. The educational level of labor migrants (unskilled in their majority) finding jobs in agriculture, construction, trade, does not contribute to improving the quality of labor potential.

Imbalance generated, on the one hand, by the lack of qualified personnel needed to provide modern technologies, and on the other hand – the excess of people with irrelevant professions, is exacerbated by the large number of out-of-date jobs, not adapted to new graduated personnel required to operate in the conditions of innovative economy. Indicative is the lag between the vocational training content and the labor market demand, and the gap from the global economic development strategies.

Shortage of skilled educated workforce becomes a constraining factor for development of innovative productions, an obstacle for improving the competitiveness of some economic sectors and regions, thus causing disproportions in the economic development. Labor market of Kazakhstan is experiencing also a certain deficit of effective managers. The market economy requires the new business model for managing. But Kazakh managers do not always have enough experience. This is confirmed by the Global Competitiveness Report 2015-2016. Kazakhstan takes by the Labor market efficiency high 18th position due to such components as Pay and productivity(22th place), Redundancy costs, weeks, of salary(20), Flexibility of wage determination(22). However, such indicators as Reliance on professional management(79th position), Cooperation of labor-employer relations(53th) are quite low.

This proves that the national labor market has not formed yet a strong demand for highly skilled labor. Moreover, the high level of education, professional qualifications are not always appropriate guarantor for high social status and income. Low wages in the public sector and individual branches of material production increase the imbalance at the labor market without contributing to the influx of skilled personnel in these sectors of the economy and reducing the demand for vocational education in these fields.

The problem of insufficient qualifications and skills of national staff will exacerbate in condition of functioning of the Common Economic Space and accession to the WTO. Opening of the national market for foreign workers and companies-employers will lead to greater competition with foreign qualified workers for high-paying jobs. Formation of a more rational professional and educational structure of employers, and thus more effective in its influence on a rate and quality of economic growth should be refer to ensure the socio-economic balance between supply and demand for labor.

Thus, it appears that for Kazakhstan the key factor of competitiveness increasing is development of new approaches to education and vocational training and retraining, particularly universalization of workers' skills adequate to needs of the forming innovative economy, improvement the quality characteristics of specialists. Quality of workforce, as an integral component of the country's competitiveness, largely determines the effectiveness of implementation of other competitive advantages, in particular, favorable geographical location, availability of natural resources, favorable investment climate, etc.

Today Kazakhstan has formed its own national model of education. Creation of an effective educational system became one of the priorities of the state policy from the very beginning of independence. During past years funding for this purpose has increased 7.5 times. In 2015, funding amounted to more than $ 1 trillion tenge or 3.8% of GDP. Currently in the country 75% of the population aged 5 to 24 years old are covered by education. 30% of people works in educational sphere and science, among them 414.5 thousand teachers and scientists. Integrating into the global community, Kazakhstan accede the world educational space in order to bring the national education system to the international educational standards. As an example, we can name the presidential program "Bolashak" (the Future). Every year about 3000 students acquire specialties in demand in the best world universities.

Kazakhstan's new universities created to become educational and research centers ensure the economy by workers required by the modern economy. One of them is the Nazarbayev University - an international high school, based on international standards. It operates on the

principles of autonomy and academic freedom, positioning itself as educational and research institution. All academic and research programs of the university are implemented in official partnership with the best world universities, and international scientific organizations.

One of global trend in education is minimizing the distances between education and practice. Modern professional training requires competence approach - teacher should not simply give "ready knowledge," but he must to form the ability of students to apply this knowledge in practice. Today the higher educational institutions are moving to a model of a research university in order to strengthen the interaction of education, science and industry. In particular, the research university can independently develop and implement standards for educational programs of higher and postgraduate education, but not below the established state standards. It also has the right to impose additional requirements to professional orientation, create experimental promotional company. All this will eliminate the contradiction between the level of university training of young professionals and needs in a really professional staff, as well as build an effective system "school - science - production".

5. Conclusions

Currently the human development becomes the most important factor of sustainable development on a par with the political sovereignty and GDP growth.

Realities of modern development of the world economic system testify that countries which have managed in due time to use their competitive advantages, demanded by tendencies of global economic progress, become the most competitive. Transition of the world community to post-industrial society leads to economic growth on qualitatively updated basis when competitive advantages become less presented by natural resources, and in much bigger degree are defined by level of use of knowledge, skills and high technologies. In these conditions, it is obvious that country's activity and level of its participation in global processes are defined by their ability to reach the high economic growth and quality of the human capital. The human capital which is defined in greater by education, professional skills and intelligence is the most important among the complex of organizational and economic factors, based on which the construction of an innovative economy is realized. Industrial modernization and transition to an innovation economy increase the demands for the workforce of high quality. Under this condition the human capital becomes the strategic resource of the country by changing the nature of competition at the global markets and determining the country's place in the world economy.

According to experts, one of the most important factors of economic growth up to 40% is education. This indicates that formation of an effective education system is a major strategic objective of the public policy targeting to sustainable development. Just the current system of education at all levels is responsible for the formation of citizens' skills and quality of knowledge relevant to the modern world standards and requirements. In the face of rising global competitiveness when information becomes a good, and the supply of services is transformed so that they can be obtained via Internet, adapting the education system to the new realities is of current importance.

Formation of human capital of high quality depends on the following conditions:

- Introduction of higher professional educational standards of the third generation, suggesting formation of ability to apply the knowledge in practice, development of creative thinking.
- Integration and consolidation of the best educational and scientific resources of universities and research institutes for specialists' training for the top-priority areas of engineering, science, and technological innovation.
- Improvement of the range of jobs and professions, optimization of training at all levels of professional education in accordance with modern requirements
- Improvement of attractiveness and image of vocational education through the allocation of various grants and scholarships to students of professional educational institutions to ensure the employment for graduates, and to open professional prospects for graduates to continue studying and career.
- Formation of new approach to formation of the strategy, tactics and adaptation mechanisms of the vocational education system to the economic, social and demographic situation in the country.
- Creation of a modern, mobile and flexible system of continuing professional education (as a part of the overall system of Education through the whole life), including all levels of professional education.
- Increasing the social responsibility of business through organization of the professional training of employees on the basis of improvement and modernization of the tripartite partnership between the government, employers and employees.
- Realization of active state policy in sphere of science and technology, favoring creation of effective institutions for development and support of innovation.
- Improvement of legislation for support the research and innovation, as well as commercialization of scientific research and protection of intellectual property.

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