

ISSN 2518-1467 (Online),  
ISSN 1991-3494 (Print)

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ  
ҰЛТТЫҚ ҒЫЛЫМ АКАДЕМИЯСЫНЫҢ

# Х А Б А Р Ш Ы С Ы

---

---

## ВЕСТНИК

НАЦИОНАЛЬНОЙ АКАДЕМИИ НАУК  
РЕСПУБЛИКИ КАЗАХСТАН

## THE BULLETIN

OF THE NATIONAL ACADEMY OF SCIENCES  
OF THE REPUBLIC OF KAZAKHSTAN

1944 ЖЫЛДАН ШЫҒА БАСТАҒАН  
ИЗДАЕТСЯ С 1944 ГОДА  
PUBLISHED SINCE 1944

5

---

АЛМАТЫ  
АЛМАТЫ  
ALMATY

2016

ҚЫРКҮЙЕК  
СЕНТЯБРЬ  
SEPTEMBER

Б а с р е д а к т о р ы

х. ғ. д., проф., ҚР ҰҒА академигі

**М. Ж. Жұрынов**

Р е д а к ц и я а л қ а с ы:

**Абиев Р.Ш.** проф. (Ресей)  
**Абишев М.Е.** проф., корр.-мүшесі (Қазақстан)  
**Аврамов К.В.** проф. (Украина)  
**Аппель Юрген** проф. (Германия)  
**Баймуқанов Д.А.** проф., корр.-мүшесі (Қазақстан)  
**Байпақов К.М.** проф., академик (Қазақстан)  
**Байтулин И.О.** проф., академик (Қазақстан)  
**Банас Иозеф** проф. (Польша)  
**Берсимбаев Р.И.** проф., академик (Қазақстан)  
**Велихов Е.П.** проф., РҒА академигі (Ресей)  
**Гашимзаде Ф.** проф., академик (Әзірбайжан)  
**Гончарук В.В.** проф., академик (Украина)  
**Давлетов А.Е.** проф., корр.-мүшесі (Қазақстан)  
**Джрбашян Р.Т.** проф., академик (Армения)  
**Қалимолдаев М.Н.** проф., корр.-мүшесі (Қазақстан), бас ред. орынбасары  
**Лаверов Н.П.** проф., академик РАН (Россия)  
**Лупашку Ф.** проф., корр.-мүшесі (Молдова)  
**Мохд Хасан Селамат** проф. (Малайзия)  
**Мырхалықов Ж.У.** проф., корр.-мүшесі (Қазақстан)  
**Новак Изабелла** проф. (Польша)  
**Огарь Н.П.** проф., корр.-мүшесі (Қазақстан)  
**Полещук О.Х.** проф. (Ресей)  
**Поняев А.И.** проф. (Ресей)  
**Сагиян А.С.** проф., академик (Армения)  
**Сатубалдин С.С.** проф., академик (Қазақстан)  
**Таткеева Г.Г.** проф., корр.-мүшесі (Қазақстан)  
**Умбетаев И.** проф., корр.-мүшесі (Қазақстан)  
**Хрипунов Г.С.** проф. (Украина)  
**Якубова М.М.** проф., академик (Тәжікстан)

**«Қазақстан Республикасы Ұлттық ғылым академиясының Хабаршысы».**

**ISSN 2518-1467 (Online),**

**ISSN 1991-3494 (Print)**

Меншіктенуші: «Қазақстан Республикасының Ұлттық ғылым академиясы»РҚБ (Алматы қ.)

Қазақстан республикасының Мәдениет пен ақпарат министрлігінің Ақпарат және мұрағат комитетінде  
01.06.2006 ж. берілген №5551-Ж мерзімдік басылым тіркеуіне қойылу туралы куәлік

Мерзімділігі: жылына 6 рет.

Тиражы: 2000 дана.

Редакцияның мекенжайы: 050010, Алматы қ., Шевченко көш., 28, 219 бөл., 220, тел.: 272-13-19, 272-13-18,  
www: nauka-nanrk.kz, bulletin-science.kz

---

© Қазақстан Республикасының Ұлттық ғылым академиясы, 2016

Типографияның мекенжайы: «Аруна» ЖК, Алматы қ., Муратбаева көш., 75.

Г л а в н ы й р е д а к т о р  
д. х. н., проф. академик НАН РК  
**М. Ж. Журинов**

Р е д а к ц и о н н а я к о л л е г и я:

**Абиев Р.Ш.** проф. (Россия)  
**Абишев М.Е.** проф., член-корр. (Казахстан)  
**Аврамов К.В.** проф. (Украина)  
**Апель Юрген** проф. (Германия)  
**Баймуканов Д.А.** проф., чл.-корр. (Казахстан)  
**Байпаков К.М.** проф., академик (Казахстан)  
**Байтулин И.О.** проф., академик (Казахстан)  
**Банас Иозеф** проф. (Польша)  
**Берсимбаев Р.И.** проф., академик (Казахстан)  
**Велихов Е.П.** проф., академик РАН (Россия)  
**Гашимзаде Ф.** проф., академик (Азербайджан)  
**Гончарук В.В.** проф., академик (Украина)  
**Давлетов А.Е.** проф., чл.-корр. (Казахстан)  
**Джрбашян Р.Т.** проф., академик (Армения)  
**Калимолдаев М.Н.** проф., чл.-корр. (Казахстан), зам. гл. ред.  
**Лаверов Н.П.** проф., академик РАН (Россия)  
**Лупашку Ф.** проф., чл.-корр. (Молдова)  
**Моход Хасан Селамат** проф. (Малайзия)  
**Мырхалыков Ж.У.** проф., чл.-корр. (Казахстан)  
**Новак Изабелла** проф. (Польша)  
**Огарь Н.П.** проф., чл.-корр. (Казахстан)  
**Полещук О.Х.** проф. (Россия)  
**Поняев А.И.** проф. (Россия)  
**Сагьян А.С.** проф., академик (Армения)  
**Сатубалдин С.С.** проф., академик (Казахстан)  
**Таткеева Г.Г.** проф., чл.-корр. (Казахстан)  
**Умбетаев И.** проф., чл.-корр. (Казахстан)  
**Хрипунов Г.С.** проф. (Украина)  
**Якубова М.М.** проф., академик (Таджикистан)

«Вестник Национальной академии наук Республики Казахстан».

**ISSN 2518-1467 (Online),**  
**ISSN 1991-3494 (Print)**

Собственник: РОО «Национальная академия наук Республики Казахстан» (г. Алматы)

Свидетельство о постановке на учет периодического печатного издания в Комитете информации и архивов  
Министерства культуры и информации Республики Казахстан №5551-Ж, выданное 01.06.2006 г.

Периодичность: 6 раз в год

Тираж: 2000 экземпляров

Адрес редакции: 050010, г. Алматы, ул. Шевченко, 28, ком. 219, 220, тел. 272-13-19, 272-13-18.

www: nauka-nanrk.kz, bulletin-science.kz

---

© Национальная академия наук Республики Казахстан, 2016

Адрес типографии: ИП «Аруна», г. Алматы, ул. Муратбаева, 75

E d i t o r i n c h i e f

doctor of chemistry, professor, academician of NAS RK

**M. Zh. Zhurinov**

E d i t o r i a l b o a r d:

**Abiyev R.Sh.** prof. (Russia)  
**Abishev M.Ye.** prof., corr. member. (Kazakhstan)  
**Avramov K.V.** prof. (Ukraine)  
**Appel Jurgen,** prof. (Germany)  
**Baimukanov D.A.** prof., corr. member. (Kazakhstan)  
**Baipakov K.M.** prof., academician (Kazakhstan)  
**Baitullin I.O.** prof., academician (Kazakhstan)  
**Joseph Banas,** prof. (Poland)  
**Bersimbayev R.I.** prof., academician (Kazakhstan)  
**Velikhov Ye.P.** prof., academician of RAS (Russia)  
**Gashimzade F.** prof., academician ( Azerbaijan)  
**Goncharuk V.V.** prof., academician (Ukraine)  
**Davletov A.Ye.** prof., corr. member. (Kazakhstan)  
**Dzhrbashian R.T.** prof., academician (Armenia)  
**Kalimoldayev M.N.** prof., corr. member. (Kazakhstan), deputy editor in chief  
**Laverov N.P.** prof., academician of RAS (Russia)  
**Lupashku F.** prof., corr. member. (Moldova)  
**Mohd Hassan Selamat,** prof. (Malaysia)  
**Myrkhalykov Zh.U.** prof., corr. member. (Kazakhstan)  
**Nowak Isabella,** prof. (Poland)  
**Ogar N.P.** prof., corr. member. (Kazakhstan)  
**Poleshchuk O.Kh.** prof. (Russia)  
**Ponyaev A.I.** prof. (Russia)  
**Sagiyani A.S.** prof., academician (Armenia)  
**Satubaldin S.S.** prof., academician (Kazakhstan)  
**Tatkeyeva G.G.** prof., corr. member. (Kazakhstan)  
**Umbetayev I.** prof., corr. member. (Kazakhstan)  
**Khripunov G.S.** prof. (Ukraine)  
**Yakubova M.M.** prof., academician (Tadjikistan)

**Bulletin of the National Academy of Sciences of the Republic of Kazakhstan.**

**ISSN 2518-1467 (Online),**

**ISSN 1991-3494 (Print)**

Owner: RPA "National Academy of Sciences of the Republic of Kazakhstan" (Almaty)

The certificate of registration of a periodic printed publication in the Committee of Information and Archives of the Ministry of Culture and Information of the Republic of Kazakhstan N 5551-Ж, issued 01.06.2006

Periodicity: 6 times a year

Circulation: 2000 copies

Editorial address: 28, Shevchenko str., of. 219, 220, Almaty, 050010, tel. 272-13-19, 272-13-18,  
<http://nauka-nanrk.kz/>, <http://bulletin-science.kz>

---

© National Academy of Sciences of the Republic of Kazakhstan, 2016

Address of printing house: ST "Aruna", 75, Muratbayev str, Almaty

**Nurlan Kurmanov<sup>1</sup>, Ulukbek Aliyev<sup>2</sup>, Assel Rakhimbekova<sup>1</sup>, Adelina Makhatova<sup>3</sup>**

<sup>1</sup>Kazakh University of Economics, Finance and International Trade, Astana, Kazakhstan,

<sup>2</sup>Academy of Public Administration under the President of the Republic of Kazakhstan, Astana, Kazakhstan,

<sup>3</sup>University Narxos, Almaty, Kazakhstan.

E-mail: n.a.kurman@mail.ru

**MODERNIZATION OF HIGHER EDUCATION  
AS A FACTOR OF THE QUALITY ASSURANCE OF HUMAN CAPITAL**

**Abstract.** The article deals with the modernization of organizational and economic relations in the system of higher education in the stage of formation of intellectual potential as the basis for economic development. Authors analyzed the existing level of quality of human capital through higher education in the main body of the paper. The authors concluded that the factor of development of human capital is the institution of education that goes beyond the traditional educational system, becoming a "lifelong learning" in the modern world. A series of measures needed to be implemented in the higher education system, which will prevent the loss of human capital and optimize the process of its formation are presented. Direction of intellectualization of Kazakh society and improving the quality of human capital are distinguished.

**Keywords:** education, higher education, university, human capital, the Republic of Kazakhstan.

**1. Introduction.** The issue of evaluating the productive capacity and human potential of the whole society is one of the unsolved questions of the economic theory. The power of the concept of human capital, both theoretically and practically, is adjacent to the lack of tools and indicators to measure it.

The need to solve this issue is becoming more obvious and is dictated by the urgent need of solving global economic problems faced by humanity in the transition to a new stage of civilization, called the emergence of the informational society, knowledge-based economy, and the new economy.

The post-industrial economy has significantly changed the attitude of the factors of production. When industrial economy efforts have been concentrated on the saturation of the production of equipment, in the post-industrial era the main positions in the system of social values is held by the production of intellectual products with high technology and the accelerated pace of technological renovation, both in production and service sectors.

Thus, there is a worldwide tendency of economic development based on the quality of human resources at their disposal. Quality indicators of human resources have more influence on the basic parameters of social and economic development [1].

Human potential is a complex economic category. It has qualitative and quantitative characteristics. Many scientists and economists suggested using a variety of approaches and methods of its measurement.

Strategic priorities for socio-economic growth of the Republic of Kazakhstan associated with the industrial and innovative development; they make business education an important resource for the new economy.

In order to properly understand the economic situation, to know and apply into practice the initial, though necessary business concepts, it is preferable to have relevant education. Adapting to new social challenges requires creative approach and innovative ideas that generate meaningful context for contemporary educational paradigm [2]. At the present time, when the Republic of Kazakhstan, like other member countries of the Customs Union, is facing serious economic problems, the business education system should play an important role in helping to meet these challenges. Institutions can and should contribute to economic growth, primarily through the provision of graduate quality training not only for

general employment, but also to fulfill specific tasks in the employment sector. Significant efforts are focused on creating opportunities for on-the-job training, as well as enhancing the participation of employers in the business education system.

Traditionally, the United States and Western Europe were always considered the most popular environment for business education and subsequent employment. In recent years, the center of global economic growth is clearly shifting towards the Asia-Pacific Region [3].

In a market economy, which was chosen by Kazakhstan more than 20 years ago, entrepreneurship is country's main driving force, largely depending on the level of business education. Separation of a business education segment from secondary vocational economic education was due to the structural changes and socio-economic transformations, associated with obtaining state sovereignty and economic independence, transition to a new type of economic relations, development of entrepreneurship and private property institution [4].

**2. Brief Literature Review.** Works of following authors were devoted to study of theoretical aspects of effective management systems in educational organizations: (Yeleussov *et al.*, 2015) [5], (Krasikova, 2014) [6], (Kurmanov *et al.*, 2015) [7], (Aliyev and Kurmanov, 2015) [8], (Kirichok, 2013) [9] and (Zhaitapova and Satyvaldiyeva, 2012) [10] also made substantial contribution to the development of educational issues.

Despite the high scientific interest to this problem and number of available studies, it is worth to note that the issues of education are not elaborated and in demand in developing strategy today. These considerations determined the choice of research topics and its direction.

**3. Methods.** Taking into account the lack of official statistic data on education in the Republic of Kazakhstan, this study has an experimental and evaluative nature. The research methodology is based on the processing of secondary data that makes it possible to conduct a preliminary analysis of the problems.

We used descriptive and conservative approaches, as well as generalization and a retrospective analysis.

#### **4. Results.**

**4.1. The current state and human capital development trends in the Republic of Kazakhstan.** The concept of "human capital" in the economic theory came through by the efforts of two the Nobel Prize winners in Economics Theodore Schultz (Schultz, 1964) [11] and Gary Becker (Becker, 1964) [12], who argued that improving the welfare of poor people does not depend on the land, machinery or effort, but rather on knowledge.

A fundamental contribution to the development of the modern theory of human capital were made by T. Schultz, G. Becker, R. Solow, S. Kuznets, I. Fisher, R. Lucas and other economists and sociologists.

Schultz proposed the following definition: "All human resources and capabilities are either congenital or acquired. Everyone is born with an individual set of genes determining his innate human potential. Acquired valuable human qualities that can be amplified by specific inputs are called "human capital" [11].

The concept of human capital has been put forward by American economist G. Becker in 1960 and represents accumulated knowledge, skills and craftsmanship that employee has and has acquired during his training, education, professional training, work experience. Becker (Becker, 1964) considered the cost of education and trainings, as main investments into human capital, and assessed their cost-effectiveness as the ratio of revenues to costs, having about 12-14% of annual profits [12].

Schultz believed that the accumulation of people's ability to work, their creative activities in social life, the maintenance of health are the main results of investment in human capital and he believed that human capital has the necessary attributes of a productive nature; it is able to accumulate and build up [11].

According to Schultz's (Schultz, 1964) assessment for accumulation of human capital is used not  $\frac{1}{4}$  of total produced value in society, as would most of the theories of reproduction of the XX century suggest, but  $\frac{3}{4}$  of its total value [11].

In our opinion, the human capital is complex of intellectual abilities, skills, knowledge and abilities of the person, received during education and practical activities, quality of life and health.

Human development as a complex economic category has qualitative and quantitative characteristics. At different times many scientists and economists offered to use a variety of approaches and methods for measurement.

The simplest way of measuring human development that use natural assessment is measuring human development in man-years of study. The more human learns, the higher his level of education, the greater the amount of his human development. However amendments that take into account the same duration of training at different levels of education (for example, secondary education in schools and higher education at the university) are made.

The most common method of measuring human development is the cost. The founder of this method is W. Petty (Petty, 1940) [13] who proposed technique of calculating value of each person with the help of which human productive forces were assessed for the first time. In his opinion the value of ground mass of people is equal to twenty fold annual income that they bring.

From the perspective of cost estimate A. Smith (Smith, 2007) [14] and D. Ricardo (Ricardo, 1955) [15] calculated the cost of human capital. In his research A. Smith pointed out on characteristics of labor market operation and human capital. In his opinion not labor force (inability to work) acts as goods on labor market but labor [14]. To form knowledge, skills and best practices of employee it is necessary to invest «true costs», including time, labor and expenses. Cost-based component of expenses, according to A. Smith (Smith, 2007) [14], is fundamental element of human capital formation. D. Ricardo (Ricardo, 1955) [15] called cost of labor force reproduction as «true costs».

Cost method for assessing human capital was also used by K. Marx (Marx, 1967) [16]. However Marx believed that subject of purchase and sale on labor market is not the labor itself, but «labor force», i.e. ability to work. In this case labor force appears as commodity. Main terms for selling this product by employees are qualitative and quantitative characteristics.

During development of human capital theory G. Bekker (Becker, 1964) [12] proposed subjective marginal utility of organization as a basis.

One of the areas of cost estimate is method of measuring human capital through production of cost for productive capacity and amount of this capacity. Thus, human capital is measured indirectly with the help of market costs, by which they should be rented. This area was developed by L. Thurow (Thurow, 1970) [17].

The most common method of measurement is principle of future income capitalization based on position of preference benefits in time.

While using this method economic impact of human capital use is taken into account. According to I. Fisher use of capital means getting interest as a universal form of any income.

G. Bekker (Becker, 1964) [12] measured human capital on the basis of combination of one unit of simple labor proposed by him and known quantity of human capital embodied in it. A. Marshall (Marshall, 2009) [18] improved methodology for human capital assessment proposed by G. Bekker (Becker, 1964) [12]: «total earnings of any person after he completed investment in human capital are equal to income on these investments and earnings from his initial human capital».

Nowadays aggregated indicator of human development index (HDI) is used to determine the amount of accumulated human capital. HDI is aggregated indicator of human development, which characterizes average level of achievements of any country on the most important three aspects of human development:

- 1) health and longevity measured by life expectancy at birth indicator;
- 2) access to education measured by adult literacy level and aggregate gross coefficient of educational coverage;
- 3) adequate standard of living measured by amount of gross domestic product per capita in US dollars at purchasing power parity [19].

National human capital is more than half of national wealth of each developing country and more than 70-80% of developed countries of the world, it remained and remains the main intensive factor in development of economy and society.

Human capital (HC), like any other capital (physical, natural, financial) has value, subject to renewal, modernization and development. The main measuring indicators of HC are its cost and capacity (efficiency) as intensive factor of development. HC has all properties and indicators of development of intensive factor.

Human capital as economic category leads to strong separation of peoples and nations by its main indicators: efficiency and quality. At the same time, Human Development Index (HDI), nowadays widely used by international institutions of the United Nations and dramatically eliminates these differences. This is the main difference between HDI and efficiency indicator of HC [20].

National human capital (Human Capital) is essentially different by quality and cost per capita, as well as by its efficiency for different countries. These indicators of HC depend on quality and ethics of labor that are historically determined by degree of economic freedom and mentality.

Capacity or efficiency of HC is determined by transformation ratio of investments in HC (1), that can be greater than one (for the most developed countries with the highest quality of HC, knowledge economy and information society) and less than one for developing and underdeveloped countries of the world. For countries with low-quality labor and its low capacity it is several times lower than that of developed countries, as well as labor capacity.

Transformation ratio of investments in HC (efficiency coefficient) reflects integral capacity and efficiency of cumulative national HC, which, in its turn, determines average labor capacity in industries with high added value (manufacturing industry, high-tech industries).

In 2012 HDI in USA was 0.902 and in Russia - 0.719 (difference - 20%), that, of course, does not reflect gap between countries on human development, nor, especially, on cost per capita and capacity of national HC of these countries. Ratio of coefficients of HC efficiency is completely different – in USA it is 4.1 times higher than in Russia, that is close to ratio of average labor capacity in the countries (Table 1).

Table 1 – Human capital efficiency coefficient.

Country	Type of economy	Human capital efficiency coefficient	Raw-material economy index	Index of Economic Freedom (IEF)	Human capital quality index
USA	Knowledge	1.225	1	0.78	1.67
Great Britain	Innovative	0.855	1	0.75	0.96
Germany	Innovative	0.93	1	0.72	1.14
Japan	Innovative	0.93	1	0.73	1.13
China	Industrial with focus of innovative	0.49	1	0.52	0.45
India	Industrial with focus of innovative	0.37	1	0.55	0.19
Russia	Industrial and raw-material	0.30	0.75	0.51	0.31
Estonia	Industrial	0.67	1	0.75	0.59
Kazakhstan	Industrial and raw-material	0.29	0.56	0.62	

Source: Calculated by the authors based on [21].

The main lack of HDI is that this index does not reflect quality of education, quality of GDP per capita and even quality of public health. In developed countries quality and cost of education is much higher than in poor or developing countries. A large proportion of oil and gas sector of economy and its income allow taking high positions in HDI rating, for example, oil-producing Arab countries, which less employ their national HC even in oil and gas production. That is way Ju. Korchagin (Korchagin, 2006) [22] introduced decreasing coefficient that for Russia is equal to 0.84, and for Kazakhstan is 0.7, which is determined by ratio of GDP and exports of raw materials to account for higher export income in calculation of national HC efficiency in countries with commodity-dependent economies.

HDI, playing certain positive role, lost its objectivity in assessing features of national human development and HC, but it can serve as one of indicators during assessment of HC efficiency. UNESCO even declared the crisis of education in prosperous by HDI (included in groups with the highest, high and medium HDI) Arab countries as one of causes of revolutions in them [23].

Shadowing HC inefficiency due to low quality of education, health, science, security, elite by high and smoothed values HDI only hinder lagging countries to clearly outline the scope of their competitive weaknesses and shortcomings.

It is necessary to determine quality and cost for human capital taking into account science as its most important component. Education cannot be of high quality and competitiveness, if science is in decline. Education and science are united and closely interlinked.



Research of the UN analysts led to pessimistic conclusion: human potential can quickly degrade due to sales of natural resources, extremely slow development of industries with high added value, decline of basic science, culture, inaccessibility of quality medical care for people, anti-market mentality of the population.

S. Egorov (Egorov, 2004) [24] notes that the important factor in human capital development are institutions of education, which in the modern world go beyond traditional educational system becoming «learning throughout life».

Nowadays knowledge, practical skills and information are determining criteria and driving force for development of economy, social sphere and public life. But knowledge itself without professional does not transform the economy. Universities as society development institutions generate knowledge; provide training of personnel-scientific and educational, technological, managerial and cultural elite of the country.

Today, educational content goes out of date very quickly, according to experts, scope of professional information doubles every 7-8 years. On this basis in order to bring up competitive specialists, it is necessary not just to «transmit» knowledge, but also teach to obtain it independently and use in practice.

Currently, due to changes and financial-economic crises in the modern world educational system is required deeper perception of human current problems. Today teachers and students cannot keep out of global socio-economic problems. Training in-demand for economy specialists, who are ready to participate in society innovative modernization and thus having positive impact on young generation, forming its worthy ideals and challenging task. Properly developed university strategy and development of corporate culture help to solve it.

Human capital has all the properties and indicators of intensive development factor, but there are some problems with the precise measurement of its cost and performance.

These problems are connected with the vagueness of the definition of multi element, compound and complex human capital itself, as well as with the dependence of its quality and, accordingly, the performance on many parameters and indicators that can characterize one or another country.

Moreover, there are ethical problems with using fully the concept of “capital”, as it relates to a person, people and nation. Economic category of “human capital” inevitably leads to a strong separation of peoples and nations by the main indicator – efficiency and quality of human capital.

Being a combination of indexes of longevity, education and income, the HDI allows more adequate and comprehensive consideration of the development.

The index takes into account the most important parameters of human well-being.

Directly or indirectly, such characteristics as health and longevity, the environment, the level of culture, education and income levels are taken into account through the index.

All these components are documented and are suitable for cross-country comparisons.

HDI is the integrated socio-economic indicator which is constantly being improved by experts of UNDP.

The main management resource is not the financial resources and other conventional resources, but the intelligence of professors, teachers, and young scientists with entrepreneurial talent and leadership qualities. This is the way the corporate culture of the university generates human capital, the development of which determines the knowledge economy.

Higher education plays an important role in the training of competent and competitive specialists for all branches of the national economy, in the integration of science and production.

To increase the efficiency of human capital and to create an innovation economy at the level of advanced countries it is necessary to achieve:

- very high level and quality of human capital and high investments in its growth and development;
- high level and quality of life;
- high level of HPDI and economic freedom;
- high level of development of basic science;
- high level of development of applied sciences;
- availability of the powerful intellectual centers for technological development in the country;
- a large proportion of the sector of the new economy;
- powerful synergetic effect in all spheres of human intellectual activity;

- advanced and effective innovation and venture systems supported by the state;
- an attractive investment climate and high level of investment ratings;
- a favorable business and tax climate;
- diversified economy and industry;
- competitive products in the global technology markets;
- an effective state regulation of the country development;
- transnational corporations ensuring a competitive technological and scientific development of the country;
- low level of inflation (less than 3-5%).

Integration of education, science and industry, the development of post-graduate education based on modern scientific and technology advances are today one of the priority fields of economic development.

#### **4.2. Problems and development trends of the higher education in the Republic of Kazakhstan.**

Following independence and the beginning of the transition to a democratic society and a market economy, a significant progress has been achieved in reforming of higher education in Kazakhstan; the principles and content of education have been radically changed. The supportive environment was created for the education market formation and development that covered both public and private educational institutions.

Higher education institutions network was created to train staff that meets the needs of a market economy. Besides, new training programs and curriculums were developed and implemented, new specialties were initiated. The main trend in the higher education development was refusal of centralized management in education and the abolition of rigid centralization of higher education institutions. As a result, the private higher education sector has started to work on an equal footing with public universities, which were granted the right to enroll and educate students on a fee-paying basis. This initiative was supported by the Kazakhstan Competition Law.

The most important were efforts that resulted in the recognition of Kazakhstan diplomas abroad and similarly, recognition of foreign certificates and qualifications in the Republic of Kazakhstan. This was facilitated by signing President's Decree #202-13 (April 11, 1997, Kazakhstan) and the ratification of Convention on the Recognition of Qualifications concerning Higher Education (December 13, 1997, Lisbon).

In 1998, the International Convention, unifying higher education system worldwide, was adopted. The American model with the stages of bachelor degree course, master degree course, and doctorate program was approved as a standard. Now, the countries in Europe and Asia, including the CIS countries, gradually shift to this system.

An important development line in higher and postgraduate education of the Republic of Kazakhstan is its approach to international standards by joining the domestic undergraduate and postgraduate education to the Bologna Process.

Currently, in the Republic of Kazakhstan a multi-level training model is applied, which includes business education, providing training of specialists for market economy (OECD Bulletin, 2007) [25]. Established educational structure consists of the following education stages:

- higher professional education (bachelor and master degree courses);
- continuing professional education (retraining and advance training);
- business education (international business schools, corporate universities and training centers, training and consultancy companies, business colleges, etc.), which implement a wide range of business education programs.

Bachelor and master degree courses are independent stages in the higher education process.

Bachelor's degree is an academic degree that any university student can get after acquiring the necessary knowledge in the chosen specialty. This qualification is considered a confirmation that the student has acquired higher education and is well-versed in the chosen specialty.

After receiving a bachelor's degree, a citizen of the Republic of Kazakhstan has the right to hold certain positions for which one should have a higher professional education. These are primarily the employees of different social and economic spheres (administrators, managers, accountants, etc.).

Numerous professions offered by universities in Kazakhstan provide students wide employment opportunities. Due to the fact that students' professional training is maximally close to the real practical

conditions and is not focused just on narrow specialization, university graduates can change their profession within one year.

Master degree course is the upper stage of higher education. With the right choice of specialization, the student not only increases his motivation to learn, but also enhances the overall performance. In order to be enrolled in a master degree course the student first must have a bachelor's degree or be certified specialist in selected profession. If we take into account the fact that bachelor degree courses emerged not so long ago, most of the graduates willing to be enrolled to master degree courses, are graduate professionals. Besides, adults who want to get second higher education are also trained in the master degree courses.

During the period from 1990 to 2001 the number of higher education institutions, offering management training in the Republic of Kazakhstan, has increased from 55 to 185, in other words, more than 3 times. Since 2000, the total number of higher educational institutions decreases. Indicators showing higher education development in the Republic of Kazakhstan for 1990-2013 are presented in Table 2.

Table 2 – Higher education development indicators of the Republic of Kazakhstan for 1990–2013

Indicators	1990/1991	2001/2002	2010/2011	2011/2012	2012/2013
Number of higher education institutions	55	185	149	146	139
Number of students	287 367	514 738	620 442	629 507	571 691
Number of academic staff	21 955	34 508	39 600	40 531	41 224

Source: Calculated by the authors based on [26].

Currently, there are 139 higher education institutions in the Republic of Kazakhstan; 50 of them are public universities (including 9 national universities, 1 international university, "Nazarbayev University", 33 public universities, 16 corporatized universities, 66 private universities, and 13 non-civil universities) with an enrollment of 571.7 thousand students (excluding graduate and doctoral students).

Currently, there are following trends in Kazakhstan's business education market:

*In bachelor degree courses:*

1. Increased competition between universities, providing training in the field of economics.
2. Reduction in the number of students trained in the field of economics.
  - Reorientation of prospective students towards technological specialties.
  - Low birth rates during the period from 1990 to 1999.
  - Increase in number of students wishing to pursue higher education abroad.
3. Strengthening the orientation of students on economic universities with a high level of graduates' employment.

*In master degree courses:*

- 1) Increase in the number of MBA students.
- 2) Increasing competition between local and foreign business schools.
  - 1<sup>st</sup> group – Kazakhstan business schools and universities;
  - 2<sup>nd</sup> group – Russian business schools;
  - 3<sup>rd</sup> group – Western business schools.
- 3) Increasing integration into the world system of business education.
  - MBA dual degree programs;
  - Organization of field module at a partnership business schools;
  - Foreign higher education teaching personnel;
  - International accreditations.
- 4) Increasing government regulation of MBA programs in the short term perspective and the reduction of state regulation in the long run.

*In DBA programs:*

- 1) Increasing integration into the international business education system;
- 2) Creation and development of national programs, including those in national language;
- 3) Strengthening governmental regulation of DBA programs in the short term perspective and the reduction of state regulation in the long run.

*In short-term courses:*

- 1) A dramatic increase in demand for short-term programs.
- 2) Increasing focus on corporate workshops as compared to public ones.
- 3) Increasing specialization of consulting companies. The demand will become systematic, the market is clearly structured (consulting companies will not be able to develop all approaches at once, and thus will be forced to focus on a few basic services).

**5. Conclusion.** Human capital has all the properties and indicators of intensive development factor, but there are some problems with the precise measurement of its cost and performance.

These problems are connected with the vagueness of the definition of multi element, compound and complex human capital itself, as well as with the dependence of its quality and, accordingly, the performance on many parameters and indicators that can characterize one or another country.

Moreover, there are ethical problems with using fully the concept of “capital”, as it relates to a person, people and nation. Economic category of “human capital” inevitably leads to a strong separation of peoples and nations by the main indicator: efficiency and quality of human capital.

However, human development index (HDI) widely used by the international institutions of the United Nations dramatically eliminates these differences

The integration of education, science and production, development of post-graduate education on the basis of modern achievements of science and technology are today one of the priority lists of the economic development.

## REFERENCES

- [1] Kurmanov, N., Kabdullina, G., Karbetova, Z., Tuzubekova, M., Doshan, A., Karbetova, S. (2013). Motivation of employees' labor activity in oil and gas companies in Kazakhstan. *World Applied Sciences Journal*, 26(12), 1556-1561. DOI: 10.5829/idosi.wasj.2013.26.12.13590.
- [2] Anja, M. (2013). Identifying key success factors of business education system: Implications for practitioner organizations and school management. *European Journal of Business and Management*, 5(15), 76-82.
- [3] Filatov, S., Sukhorukov, N., & Dudina, T. (2013). Formation of a new vocational education model: An imperative of post-industrial development. *Higher Education in Russia*, 10, 54-62.
- [4] Malysheva, L. (2012). Business education in high school: The growing points or non-core business? *University Management: practice and analysis*, 3, 49-55.
- [5] Yeleussov, A., Kurmanov, N., & Tolysbayev, B. (2015). Education quality assurance strategy in Kazakhstan. *Aktualni problemy ekonomiky (Actual Problems of Economics)*, 2, 142-150.
- [6] Krasikova, T., Ognev, D., & Kirilenko, A. (2014). Role of universities in the regional innovation system formation. *Ekonomichnyi chasopys (Economic Annals-XXI)*, 3-4(1), 90-92.
- [7] Kurmanov, N., Yeleussov, A., Aliyev, U., & Tolysbayev, B. (2015). Developing Effective Educational Strategies in Kazakhstan. *Mediterranean Journal of Social Sciences*, 6(5), 54. DOI:10.5901/mjss.2015.v6n5s1p54
- [8] Aliyev, U., & Kurmanov, N. (2015, September). Higher education in the Republic of Kazakhstan: problems and improvement methods. In *CBU International Conference Proceedings* (Vol. 3, pp. 141-149).
- [9] Kirichok, O. (2013). Assessment of business education performance (the case of the Republic of Kazakhstan). *Social Science News*, 292-299.
- [10] Zhaitapova A., & Satyvaldiyeva A. (2012). The tendencies of development of the management in the education system of the Republic of Kazakhstan. *International Scholarly and Scientific Research & Innovation*, 6(11), 643-645.
- [11] Shultz T. Human Capital in the International Encyclopedia of the Social Sciences. — N.Y., 1968, vol. 6.
- [12] Becker, Gary S. Human Capital. — N.Y.: Columbia University Press, 1964.
- [13] Petty W. Economic and statistical work //Trans. from French). Moscow (in Russ.). – 1940.
- [14] Smith J. A. (ed.). Qualitative psychology: A practical guide to research methods. – Sage, 2007.
- [15] Ricardo D. The Works and Correspondence of David Ricardo. Edited by Piero Sraffa. With the Collaboration of MH Dobb.. – University Press, 1955.
- [16] Marx K. Capital: a critique of political economy, 3 vols. – 1967.
- [17] Thurow L. Investment in Human Capital. Belmont. 1970
- [18] Marshall A. Principles of economics: unabridged eighth edition. – Cosimo, Inc., 2009.
- [19] Kurmanov, N., Tolysbayev, B., Aibossynova, D., & Parmanov, N. (2016). Innovative activity of small and medium-sized enterprises in Kazakhstan and factors of its development. *Economic Annals-XXI*, 158(3-4(2)), 57-60
- [20] Kurmanov, N. A., Zhumanova, B. K., & Kirichok, O. V. (2013). Business-Education in Kazakhstan: Opportunities and Development Strategy. *World Applied Sciences Journal*, 21(10), pp. 1495-1501.
- [21] The World Bank (2015). *World Development Indicators*. Washington, DC: the World Bank
- [22] Korchagin Ju. A. Jeffektivnost' i kachestvo nacional'nyh chelovecheskih kapitalov stran mira. Voronezh.:CIRJe, 2011,s.3 <http://www.lerc.ru/?part=bulletin&art=38&page=1>
- [23] Kurmanov, N., & Aibossynova, D. (2015, September). The modern state of enterprise Innovation Activity in Kazakhstan. In *CBU International Conference Proceedings* (Vol. 3, pp. 129-140).

[24] Egorov S. Chelovecheskii faktor i ekonomicheskii rost v us-loviyakh postindustrializatsii. // VE, - № 5. - S.: 85.

[25] OECD and the International Bank for Reconstruction and Development. (2007). Higher Education in Kazakhstan. The World Bank, 17 (222).

[26] Committee on Statistics of Ministry of National Economics of the RK (2016). The official statistical information. <http://stat.gov.kz>

**Н. А. Курманов<sup>1</sup>, У. Ж. Алиев<sup>2</sup>, А. Е. Рахимбекова<sup>1</sup>, А. Б. Махатова<sup>3</sup>**

<sup>1</sup>Қазақ экономика, қаржы және халықаралық сауда университеті, Астана, Қазақстан,

<sup>2</sup>Қазақстан Республикасы Президентінің жанындағы Мемлекеттік басқару академиясы, Астана, Қазақстан,

<sup>3</sup>«Нархоз» университеті, Алматы, Қазақстан

### **АДАМ КАПИТАЛЫ САПАСЫНЫҢ ҚАМТАМАСЫЗ ЕТУ ФАКТОРЫ РЕТІНДЕ ЖОҒАРЫ БІЛІМ БЕРУ ЖҮЙЕСІН МОДЕРНИЗАЦИЯЛАУ**

**Аннотация.** Мақала мемлекеттің экономиканың дамуының негізі ретінде зияткерлік шаманы құру сатылы бойынша жоғарғы білім жүйесінің ұйымдастырушы-экономикалық қатынастарының модернизациялау мәселесіне арналған. Зерттеудің негізгі бөлімінде авторлармен жоғарғы білім бойынша адами капиталдың даму деңгейіне талдау жасалынды. Авторлар келесі қорытындыға келді: адами капиталдың даму факторлары білім институттары болып табылады. Қазіргі уақытта ол білім жүйесі дәстүрлі білім жүйесі шеңберінен шығып бара жатыр. Адам капиталының жоғалуын болдырмау және оның қалыптасу процесін оңтайландыру үшін жоғары білім беру жүйесінде жүзеге асырылатын қажетті іс-шаралар сериясы жасалған. Қазақ қоғамының зияткерлігі мен және адам капиталының сапасын арттыру үшін бағыттар белгіленген.

**Түйін сөздер:** білім, жоғарғы білім жүйесі, университет, адами капитал, Қазақстан Республикасы.

**Н. А. Курманов<sup>1</sup>, У. Ж. Алиев<sup>2</sup>, А. Е. Рахимбекова<sup>1</sup>, А. Б. Махатова<sup>3</sup>**

<sup>1</sup>Казахский университет экономики, финансов и международной торговли, Астана, Казахстан,

<sup>2</sup>Академией государственного управления при Президенте Республики Казахстан, Астана, Казахстан,

<sup>3</sup>Университет «Нархоз», Алматы, Казахстан

### **МОДЕРНИЗАЦИЯ СИСТЕМЫ ВЫСШЕГО ОБРАЗОВАНИЯ КАК ФАКТОР ОБЕСПЕЧЕНИЯ КАЧЕСТВА ЧЕЛОВЕЧЕСКОГО КАПИТАЛА**

**Аннотация.** Статья посвящена проблеме модернизации организационно-экономических отношений в системе высшего образования на этапе формирования интеллектуального потенциала как основы экономического развития страны. В основной части исследования авторами проведен анализ сложившегося уровня качества человеческого капитала за счет высшего образования. Авторами сделан вывод, что фактором развития человеческого капитала является институт образования, которое в современном мире выходит за рамки традиционной образовательной системы, превращаясь в «обучение в течение всей жизни». Сформулированы ряд мероприятий, необходимых к реализации в системе высшего образования, которые позволяют предотвратить потери человеческого капитала и оптимизировать процесс его формирования. Обозначены направления интеллектуализации казахстанского общества и улучшения качества человеческого капитала.

**Ключевые слова:** образование, система высшего образования, университет, человеческий капитал, Республика Казахстан.

---

---

**Publication Ethics and Publication Malpractice  
in the journals of the National Academy of Sciences of the Republic of Kazakhstan**

For information on Ethics in publishing and Ethical guidelines for journal publication see <http://www.elsevier.com/publishingethics> and <http://www.elsevier.com/journal-authors/ethics>.

Submission of an article to the National Academy of Sciences of the Republic of Kazakhstan implies that the described work has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis or as an electronic preprint, see <http://www.elsevier.com/postingpolicy>), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, including electronically without the written consent of the copyright-holder. In particular, translations into English of papers already published in another language are not accepted.

No other forms of scientific misconduct are allowed, such as plagiarism, falsification, fraudulent data, incorrect interpretation of other works, incorrect citations, etc. The National Academy of Sciences of the Republic of Kazakhstan follows the Code of Conduct of the Committee on Publication Ethics (COPE), and follows the COPE Flowcharts for Resolving Cases of Suspected Misconduct ([http://publicationethics.org/files/u2/New\\_Code.pdf](http://publicationethics.org/files/u2/New_Code.pdf)). To verify originality, your article may be checked by the Cross Check originality detection service <http://www.elsevier.com/editors/plagdetect>.

The authors are obliged to participate in peer review process and be ready to provide corrections, clarifications, retractions and apologies when needed. All authors of a paper should have significantly contributed to the research.

The reviewers should provide objective judgments and should point out relevant published works which are not yet cited. Reviewed articles should be treated confidentially. The reviewers will be chosen in such a way that there is no conflict of interests with respect to the research, the authors and/or the research funders.

The editors have complete responsibility and authority to reject or accept a paper, and they will only accept a paper when reasonably certain. They will preserve anonymity of reviewers and promote publication of corrections, clarifications, retractions and apologies when needed. The acceptance of a paper automatically implies the copyright transfer to the National Academy of Sciences of the Republic of Kazakhstan.

The Editorial Board of the National Academy of Sciences of the Republic of Kazakhstan will monitor and safeguard publishing ethics.

Правила оформления статьи для публикации в журнале смотреть на сайте:

[www.nauka-nanrk.kz](http://www.nauka-nanrk.kz)

**ISSN 2518-1467 (Online), ISSN 1991-3494 (Print)**

<http://www.bulletin-science.kz/index.php/ru/>

Редакторы *М. С. Ахметова, Д. С. Аленов, Т. М. Апендиев*  
Верстка на компьютере *Д. Н. Калкабековой*

Подписано в печать 11.10.2016.  
Формат 60x881/8. Бумага офсетная. Печать – ризограф.  
17,9 п.л. Тираж 2000. Заказ 5.