

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

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ  
ҰЛТТЫҚ ҒЫЛЫМ АКАДЕМИЯСЫНЫҢ

# Х А Б А Р Ш Ы С Ы

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**ВЕСТНИК**

НАЦИОНАЛЬНОЙ АКАДЕМИИ НАУК  
РЕСПУБЛИКИ КАЗАХСТАН

**THE BULLETIN**

THE NATIONAL ACADEMY OF SCIENCES  
OF THE REPUBLIC OF KAZAKHSTAN

PUBLISHED SINCE 1944

**3**

MAY – JUNE 2021

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ALMATY, NAS RK

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***NAS RK is pleased to announce that Bulletin of NAS RK scientific journal has been accepted for indexing in the Emerging Sources Citation Index, a new edition of Web of Science. Content in this index is under consideration by Clarivate Analytics to be accepted in the Science Citation Index Expanded, the Social Sciences Citation Index, and the Arts & Humanities Citation Index. The quality and depth of content Web of Science offers to researchers, authors, publishers, and institutions sets it apart from other research databases. The inclusion of Bulletin of NAS RK in the Emerging Sources Citation Index demonstrates our dedication to providing the most relevant and influential multidiscipline content to our community.***

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**«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 Ақпарат және коммуникациялар министрлігінің Ақпарат комитетінде 12.02.2018 ж. берілген № 16895-Ж мерзімдік басылым тіркеуіне қойылу туралы куәлік.

Тақырыптық бағыты: *іргелі ғылымдар саласындағы жаңа жетістіктер нәтижелерін жария ету.*

Мерзімділігі: жылына 6 рет.

Тиражы: 300 дана.

Редакцияның мекен-жайы: 050010, Алматы қ., Шевченко көш., 28, 219 бөл., тел.: 272-13-19, 272-13-18

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

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**«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 Министерства информации и коммуникаций и Республики Казахстан № 16895-Ж, выданное 12.02.2018 г.

Тематическая направленность: *публикация результатов новых достижений в области фундаментальных наук.*

Периодичность: 6 раз в год.

Тираж: 300 экземпляров.

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

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

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

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### 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 periodical printed publication in the Committee of information of the Ministry of Information and Communications of the Republic of Kazakhstan No. 16895-Ж, issued on 12.02.2018.

Thematic focus: *publication of the results of new achievements in the field of basic sciences.*

Periodicity: 6 times a year.

Circulation: 300 copies.

Editorial address: 28, Shevchenko str., of. 220, Almaty, 050010, tel. 272-13-19, 272-13-18

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

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Address of printing house: ST «Aruna», 75, Muratbayev str, Almaty.



UDC 338.1  
IRSTI 06.01.79; 10.23.43

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## MODERN APPROACHES TO THE ASSESSMENT OF HUMAN RESOURCES AS THE MAIN FACTOR OF REGIONAL COMPETITIVENESS

**Abstract.** This article discusses the competition as the engine of economic development and, consequently, has an impact on all subjects of economic activities. In the modern science, regions are also considered as the participants in the competitive relations. Improving their competitiveness requires the development of the effective regional projects and programmes, based on successful monitoring and evaluation tools. Human resource management for the development of the regions and their competitive advantages is the strategic task of the regional policy. The role of the human resources in the process of forming the region's competitiveness is quite high. In the modern post-industrial economy, the main criterion for the region's competitiveness is the human resources as the key to the development of each territory. Analyzing the competitiveness of the territory, the assessment of the human resources is quite necessary component. At the same time, it is quite difficult to objectively assess the human resources, which are the main factor of the regional competitiveness is relevant. The purpose of the research is the comprehensive study of the modern approaches to the assessment of the human resources as the main factor of the regional competitiveness and the development of effective diagnostic tools in this direction.

**Key words:** capital stock, national economy, human resources, economic growth, resource base, reproduction process, priority factor, regional competitiveness, wage unit, labor income capitalization.

**The relevance of the topic.** In the regional economy the human resources are considered as the separate economic category, due to their role in the socio-economic development of the region. They determine the type of economic system of the territory and their qualitative and quantitative parameters affect its competitive advantages. Most modern researchers raise the human resources to the higher level than production funds, arguing that fixed capital tends to wear out, while human resources can be adapted to new working conditions. Indeed, the human resources are an important element of the socio-economic system. In this context, each individual performs the following roles:

- consumes the goods created;
- acts as one of the factors of production;
- object of influence in the process of human development;
- acts as the factor in the development of competitive advantages of the region and the country as a whole.

Based on the analysis of numerous studies, several main approaches to measuring human resources can be identified. This method is complex, which is caused by the need to apply an up-to-date technical and methodological framework. It also requires compliance with the representativeness of the sample of the studied parameters, the

development of the single mechanism for their assessment and justification [1, P.67]. Each approach considered has significant disadvantages due to an incomplete or difficult choice of measurement tools, methods and information bases. Ideally, the results of all considered approaches to the human potential assessment should be identical. In our opinion, the discrepancy between the results is caused by the choice of unrelated research objects, related to the different areas of the human abilities.

Figure 1.

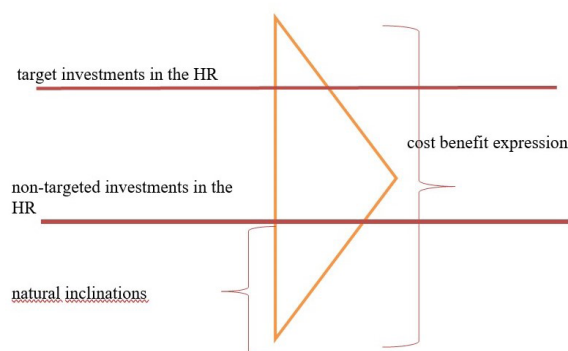


Figure 1. Main subsystems of individuals, analyzed in the course of qualitative assessment of the human resources.

Applying targeted investments, an artificially created part of the human resources was formed. The assessment involves analyzing part of the application of targeted investments and part of the natural data. Non-targeted investments can also indirectly affect the quality of the human resources [2, P.10].

J. Petrick sees the main problem of incompatibility of the human resources assessment results in the wide variety of approaches. As the result, it is difficult to compare indicators in different countries' economies.

There are often discussions about the choice of unit of measurement. The resource belongs to the economic category, so it is often used in value terms. The modern approach is index based. It involves the measurement of the human capital by using indices. This approach allows eliminating the distortions arising from the choice of the different gauges. It is most often used for evaluating the human capital of various countries, regions and territories [3, P.64].

Despite the existence of the large number of opinions about the content of the human resources, most authors believe that human resources are formed in the educational system. The evaluation often uses indicators of the sphere of education and science: terms of study, performance indicators, the number of patents for innovations, etc.

At first glance, the method is quite simple. However, accurate methodological and information bases are required to justify its application. Otherwise, the results are distorted. For example, information on the number of years of study in different countries is collected during the population census, i.e. only once every 10 years.

In some countries, data on the number of full years of education are not available. For example, in the CIS countries the census only asks about the level of education (secondary, higher, specialized secondary). Based on the information received, only approximate data can be calculated. Then the method of continuous accounting is applied, which provides for adjusting the number of years of study for factors that deserve attention: the share of the students, the coverage of various target groups, the number of students, who remained for re-education, and others.

Thus, the procedure for evaluating human resources based on the characteristics of the education is quite time-consuming. Partial lack of the information leads to insufficient accuracy of the final results. However, the average number of years of education is widely used in the construction of regression models describing the relationship between economic growth and the level of education [4, P.18].

Table 1 provides the comparative analysis of the average number of years of education in the different countries of the world.

Table 1. Average number of accumulated years of study in the different countries of the world

Name of the Country	2016 year	2017 year
USA	15,2	15,5
France	15,4	16,7
Germany	15,3	16,1
Great Britain	16,3	15,9
Japan	14,3	14,7
Russian Federation	11,9	11,8
Republic of Kazakhstan	13,8	13,9
Latvian	14,8	12,8

The indicator of the average number of years of study is often criticized in the modern science. Representatives of neoclassical theory have clearly proved that there is no obvious correlation between the level of economic growth and the country's well-being and the average number of years of study.

When analyzed in detail, the average number of years of training is as uninformative as the average temperature among the patients. It cannot be used to evaluate the total human resource. Adding up the number of years of citizens' education does not allow us to give the complete picture. According to the research theory, the human capital of 2 employees, each of whom has studied for 7 years, should equal the potential of 1 employee, who has received education for 14 years. This judgment is fundamentally wrong.

The indicator of the average number of years of study does not take into account the quality of education and its compliance with the requirements of the economy. Lieber R. was the first, who declared this method should not be used in assessing human resources [5, P.45].

He noted that the indicator can only be used in econometric analysis, if the following conditions are strictly met:

- employees are interchangeable with each other;
- the quality of education and the level of acquired knowledge and skills are the same regardless of the year of study;
- the process of replacing employees is absolutely elastic;
- there is the direct correlation between the number of years of training and the level of employee productivity.

For building econometric models, indicators that characterize the relationship between the level of education and accumulated knowledge and skills are of great value. Among them, the number of the respondents with the certain level of education in the total number of able-bodied citizens and the population as the whole is of particular value (table 2).

Table 2. Comparative analysis of the working-age population in different countries by level of education in 2016-2017

Country	Incomplete secondary education		Complete secondary education		Secondary specialized and higher education	
	2016	2017	2016	2017	2016	2017
USA	9,8	9,6	38,7	36,7	51,5	53,7
France	11,8	12,2	46,5	46,7	41,7	41
Germany	21,5	19,7	43,9	43,7	34,6	36,6
Great Britain	14,3	14,4	41,9	41,5	43,8	44,1
Japan	18,7	18,3	47,2	47,1	34,1	34,6
Russian Federation	22,2	20,1	48,9	47,7	28,9	32,2
Republic of Kazakhstan	33,6	27,5	34,4	41,3	32	31,2

Additional indicators are also used to rank the countries by their level of the human capital development. The most of them are the number of the citizens engaged in R & D, the percentage of people with the scientific degree, coverage of different levels of education, the number of the students, receiving higher education, and others. Western countries are leading in many of these indicators [6, P.33].

The countries of the former Soviet Union lag behind in terms of the share of expenditures in GDP, directed to the development of the educational space and improving the literacy of the citizens.

If special tests for the students are designed to determine the level of material development, these standardized tasks for adults are aimed at identifying the skills of the individuals after graduation. Comparing tests for adults with tasks for schoolchildren and students allow us to conclude that they are poorly correlated with each other. For example: the statistical relationship of the TIMSS test with the tasks for the economically active population is only 0.32. In the OECD countries, the average number of years of education is approximately equal. However, IELTS test results show that the functional literacy index in the Nordic countries of Europe (Finland, Norway and Sweden) is higher. This is due to the serious influence of the state on the labor market, access to education for all members of the society and the variety of the social programs for the citizens.

For the use of representative estimates in the analysis of human resources, the character is limited. This is due, first, to the complexity and the assessment procedure. Second, the results obtained from different approaches are poorly correlated with each other. This only adds ambiguity to the process of analyzing human resources. Hence, the increased interest in quantitative measurement indicators, which can be easily translated into value terms.

Investment assessment of the human resources is the most productive. However, it is necessary

to understand, what costs can be attributed to investments in the development of human resources at the level of the individual, the company and the country as the whole [7, P.531].

In the classical version of the theory, the point of reference for lost income of the citizens is the period of obtaining secondary, special or higher education. However, modern developed countries are characterized by the high level of youth unemployment. The most vulnerable are the citizens, who have received incomplete secondary or incomplete higher education.

Naturally, the analysis of the situation on the labor market does not take into account the costs of the students in absolute or cost terms. There is also the question of accounting for lost profits of primary and secondary school students. There is no developed alternative to comparison with employment, but parents and guardians are also engaged in investing in their development.

The contribution of formal education to the development of human resources is gradually decreasing, despite the increase in the duration of training and the promotion of self-learning. Moreover, in most cases, new competencies of the economically active population are developed during the job training not at advanced training courses. Special contribution to the development of the human resources brings creativity, in which the person receives special knowledge and production skills. The development of competencies in the production process is used not only in the areas of R & D. Statistics shows that the greatest contribution to the development of the human resources, belongs to the acquisition of knowledge and skills in the workplace.

The development of the human resources does not always require serious expenditures and efforts. For example, within the framework of work, the accumulation of industrial experience, the development of relevant competencies and the constant replenishment of knowledge is considered



as the normal process through which an employee can fully perform the duties assigned to him. It does not provide for targeted investment. It follows that neither the assessment of the level of education, nor the use of quantitative indicators of accounting for the stock of resources for past savings are absolutely reliable methods. They can't account for all the sources of people's knowledge and skills [8, P.81].

Thus, it is only indirectly possible to evaluate the human resources, based on past experience, for example, by comparing the impact of knowledge and experience at the different stages of work. Numerous studies show that human resources are actively developed in the early stages of work and they are devalued by retirement. An interesting fact is that the higher initial stock of knowledge and skills, the further the tipping point of depreciation is pushed back.

Proponents of this approach only complement the relationship between abilities, accumulated knowledge, skills and investments incurred. They believe that it is necessary to take into account the intangible wealth of the person only if it participates in the economic activities and benefits its owner. In this regard, they introduce the concept of "working resource". The argument is quite simple: the presence of abilities, knowledge and skills is not enough to participate in the production of tangible and intangible goods [9, P.91].

It is important that every person, who has received an education, has the chance to find a job in their specialty. Unemployment and unwillingness to perform labor duties leads to stagnation of human resources.

**Materials and methods of research.** The research methodology is based on the dialectical method, freed from materialistic or idealistic monism and based on the pluralistic, multilinear interdependence of all social phenomena. We also used the method of dialectical interdependence and interaction of methods: theoretical and empirical, historical and logical, induction and deduction in the study of the formation and development of ethnic identity in our country. The theoretical basis is based on existing theoretical and empirical publications on ethnic identity and ethnic component. In this article were used abstract-logical, analytical, monographic, economic-statistical, sociological, expert methods, as well as the methods of economic-mathematical analysis, modeling and forecasting.

**Research results.** The founder of the method of evaluating human resources of the English classical political economy is W. Petty. He owns the famous method of summing up lifetime earnings. According to his version, the value of the population is calculated by multiplying the average annual income by the duration of the labor function. He estimated his working life at an average of 20 years. W. Fara improved the methodology of W. Petty, adding the following features:

- implemented net return on human resources (the indicator is calculated by subtracting the minimum cost of primary needs from the income received);
- began to take into account the different life expectancy of the citizens, depending on their age;
- used the indexation of earnings to obtain real income of the population.

Any decision to invest in the development of human resources is justified. Therefore, in order to distinguish the rational and irrational investment ideas, it is necessary to take into account the indicator of maximizing benefits in value terms. Naturally, this decision is not absolutely correct, but it allows getting the specific result [10, P.5].

**Conclusion.** In the conclusion it should be noted, that the level of development of human resources brings to each individual material and non-material benefits. Among them: reducing the risk of unemployment, higher satisfaction with working conditions, and the possibility of building a career. There are also benefits that are not related to the labor market and monetary relations. It is proved that holders of the scientific degrees have fewer health problems, than those with secondary or incomplete secondary education. Thus, evaluating human resources through future benefits also has its weaknesses. The distortion of the result is caused by the following contradictions:

1. Lack of the unified approach to measuring non-monetary benefits, bringing them to single basis. It is worth noting that this return can change along different paths over the course of lifetime.

2. In the measurement of the future return you must enter the coefficient of uncertainty. Since the actual flow of future returns cannot be accurately calculated, this is an expected flow, the assessment of which involves the development of procedures for accounting for uncertainty and risk. The demographic situation in the country can be modeled using the retrospective analysis. It is also possible to calculate the average working life of the citizens with high probability. As for the market situation and the unemployment rate, these indicators are difficult to predict.

3. The earnings of the citizens affected by various factors. It is difficult to distinguish income from human resources and other factors of production.

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## ӨНІРЛІК БӘСЕКЕГЕ ҚАБІЛЕТТІЛІКТІҢ НЕГІЗГІ ФАКТОРЫ РЕТІНДЕ АДАМ РЕСУРСТАРЫН БАҒАЛАУДЫҢ ЗАМАНАУИ ТӘСІЛДЕРІ

**Андатпа.** Мақалада бәсекелестік экономикалық дамудың қозғаушы күші ретінде қарастырылған, сондықтан экономикалық қызметтің барлық субъектілеріне әсер етеді. Қазіргі ғылымда аймақтар бәсекелестік қатынастардың қатысушылары ретінде қарастырылады. Олардың бәсекеге қабілеттілігін арттыру мониторинг пен бағалаудың табысты құралдарына негізделген тиімді өңірлік жобалар мен бағдарламаларды әзірлеуді талап етеді. Өңірлерді дамыту және олардың бәсекелестік артықшылықтары үшін адами ресурстарды басқару өңірлік саясаттың стратегиялық міндеті болып табылады. Аймақтың бәсекеге қабілеттілігін қалыптастыру процесінде адам ресурстарының рөлі өте жоғары. Қазіргі постиндустриалды экономикада аймақтың бәсекеге қабілеттілігінің негізгі өлшемі әр аймақтың дамуының кілті ретінде адами ресурстар болып табылады. Аймақтың бәсекеге қабілеттілігін талдау кезінде адам ресурстарын бағалау жеткілікті қажетті компонент болып табылады. Сонымен бірге, аймақтық бәсекеге қабілеттіліктің негізгі факторы болып табылатын адами ресурстарды объективті бағалау өте қиын. Біздің мақаламыздың мақсаты-аймақтың бәсекеге қабілеттілігінің негізгі факторы ретінде адам ресурстарын бағалаудың заманауи тәсілдерін жан-жақты зерттеу және осы бағытта тиімді диагностикалық құралдарды әзірлеу болып табылады.

**Түйін сөздер:** капитал қоры, ұлттық экономика, адам ресурстары, экономикалық өсу, ресурстық база, ұдайы өндіру процесі, басым фактор, өңірдің бәсекеге қабілеттілігі, еңбекақы төлеу бірлігі, еңбек кірістерін капиталдандыру.

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## СОВРЕМЕННЫЕ ПОДХОДЫ К ОЦЕНКЕ ЧЕЛОВЕЧЕСКИХ РЕСУРСОВ КАК ОСНОВНОГО ФАКТОРА РЕГИОНАЛЬНОЙ КОНКУРЕНТОСПОСОБНОСТИ

**Аннотация.** В данной статье рассматривается конкуренция как двигатель экономического развития и, следовательно, оказывает влияние на все субъекты экономической деятельности. В современной науке регионы также рассматриваются как участники конкурентных отношений. Повышение их конкурентоспособности требует разработки эффективных региональных проектов и программ, основанных на успешных инструментах мониторинга и оценки. Управление человеческими ресурсами для развития регионов и их конкурентных преимуществ является стратегической задачей региональной политики. Роль человеческих ресурсов в процессе формирования конкурентоспособности региона достаточно высока. В современной постиндустриальной экономике основным критерием конкурентоспособности региона являются человеческие ресурсы как ключ к развитию каждой территории. При анализе конкурентоспособности территории оценка человеческих ресурсов является достаточно необходимой составляющей. В то же время очень сложно объективно оценить человеческие ресурсы, которые являются основным фактором актуальной региональной конкурентоспособности. Целью нашей статьи является комплексное изучение современных подходов к оценке человеческих ресурсов как основного фактора конкурентоспособности региона и разработка эффективного диагностического инструментария в этом направлении.

**Ключевые слова:** запас капитала, национальная экономика, человеческие ресурсы, экономический рост, ресурсная база, процесс воспроизводства, приоритетный фактор, конкурентоспособность региона, единица оплаты труда, капитализация трудовых доходов.

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

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

Редакторы *М.С. Ахметова, Д.С. Аленов, Р.Ж. Мрзабаева*  
Верстка на компьютере *В.С. Зикирбаева*

Подписано в печать 12.06.2021.

Формат 60x881/8. Бумага офсетная. Печать – ризограф.

22, 25 п.л. Тираж 300. Заказ 3.