

Human development as one of the factors of the transition to the knowledge economy

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Abstract. Human development is defined as a process of growth of human capabilities - a person must live a long life, not get sick, be educated, enjoy political and economic freedoms, human rights, public respect for the individual. The purpose of the study is to study the patterns of human development. In the course of the study, the following methods were used: analysis, synthesis, induction, deduction, sociological survey. The ratio of the components of the human capital index was studied, tools and criteria for improving the quality of human capital were identified.

1 Introduction

The main goal of development is the constant growth of the quality of life of the entire population. Over the past 30 years, economic growth rates were not adequately correlated with improvements in such important indicators development, as political and social stability, education. The concept of human development became the basis of the first World Human Development Report in 1990 (these reports are now annual, but each time they have some dominant theme). It interprets human development as a goal and criteria of social progress, as a way to increase income, acquiring value only when it really affects the well-being of people.

Today, one of the global trends is the growth of the competitiveness of human capital. Indicators of the quality of human capital increasingly affect the level of competitiveness of the country. In the context of the depreciation of professions and qualifications, competencies that are relevant today may become unclaimed tomorrow and will be a limitation for further socio-economic development [1]. At the same time, human capital manifests itself in two ways - it is consumed both in the labor process and outside working hours (at home). In this regard, we can say that investments in the formation of a person's creative potential are inseparable from consumption costs. In the modern economic world, the indices of the longevity of a nation, the degree of its education, the level of income of life are considered basic. These three elements are included in the structure of the combined indicator of the Human Development Index (until 2013 it was called the "Human Development Index"), which makes it possible to annually measure and compare the level and quality of life of the

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population in different countries of the world. It is no secret that the government, whose priority is the care of human health, maintaining a high standard of living, the opportunity for self-realization, etc., lays the foundation not only for the full development of competitive national human potential, but also for national macroeconomic growth. At the same time, it must be remembered that the state of health and longevity of any person (whether he is a bearer of creative labor or not) is a kind of indicator of the high quality of the “genetic code” of the nation, so to speak, a successful state project, formed by long-term and significant investments.

2 Literature review

This problem was dealt with by such scientists as: Glukhov V.V., N.T. Smagulova, A.N. Baigelova, A.K. Saurukova, Vasiliev R.F., Salikhova Z.M., Pavlova O.N., Okunev , I.Yu., Barinov, S.L., Belikov, A.A., & Polyakova, Ya.O., Sabden, O. However, in general, the ratio of the components of the human capital index, tools and criteria for improving the quality of human capital have not been studied.

3 Research methods

In the course of the study, the following methods were used: analysis, synthesis, induction, deduction, sociological survey.

4 Research results

The quality of human capital development is the main indicator reflecting the level of development of countries and regions. When calculating the quality of human capital, various indicators are used, one of the main ones being the human development index. When calculating the human development index, both economic and social indicators are taken as the basis. The ratio of the components of the human capital index is shown in Table 1.

Table 1. The ratio of the components of the human capital index

A country	Chance live to 5 years, %	Average number of years in school	Quality of learning	% of children under 5 years old, not lagging behind growing up	Survival of adult population	Total
USA	99	12,9	512		89	0,7
Great Britain	100	13,9	520		93	0,78
Germany	100	13,3	517		93	0,75
Japan	100	13,6	538		95	0,8
China	99	13,1	441	92	92	0,65
India	96	11,1	399	65	83	0,49
Russia	99	13,7	498		80	0,68
Kazakhstan	99	13,7	416	92	84	0,63

Note – based on Atameken Business 2022 source [2]

The total number of indicators for calculating the human development index is more than 50, which are grouped into four main groups of indicators.

The first group includes indicators reflecting the level of education, including the following levels of education:

- initial,
- average,
- secondary vocational,
- higher,
- Postgraduate education.

The second group includes indicators reflecting human health, including the following:

- the physical and moral condition of a person, the psychological state and well-being.

The third group reflects such indicators that reflect the indicators of employment and occupation of the population.

The fourth group reflects indicators of a social nature such as: the availability of infrastructure, the level of legal protection, social mobility of a person, development is the main indicator that reflects the standard of living in different countries of the world.

When determining the human development index, the following indicators are taken as a basis:

- life expectancy, which reflects a person's longevity;
- the level of literacy of the population, reflecting the time spent on years of study, as well as the expected duration of study;
- production of gross national income (GNI) per capita [3].

The Human Development Index is calculated annually and reflects the standard of living in individual countries.

The Human Development Index ranges from 0 to 1.

1. Countries with a very high HDI level (over 0.9).
2. High HDI countries (from 0.8 to 0.9).
3. Countries with an average HDI level (from 0.5 to 0.8).
4. Countries with a low HDI level (less than 0.5) [4].

Due to the development of the economy, countries with a very high level of human development index provide the population with well-being, the opportunity to receive education, improve the quality of life, in particular, quality nutrition, medical care, which has an impact on increasing the level and life expectancy of the population.

Highly developed countries pay great attention to the development and formation of human capital, in particular, improving the quality of services in the fields of education and healthcare, reducing poverty, creating new jobs for the population, increasing spending on social benefits, etc. [5].

In European countries, the standard of living is very high and therefore they are not on the top lines in the ranking of countries in the human development index.

These countries include the following:

Norway, Switzerland, Ireland, Australia, Germany, Hong Kong, Iceland, Sweden, Singapore, Netherlands, Denmark, where the human development index ranges from 0.940-0.957.

Table 8 reflects data on the human development index for individual countries of the world for 2018-2020.

According to Table 2, the following conclusion can be drawn.

Table 2. Human Development Index for selected countries for 2018-2020 (source [6]).

2018			2019			2020		
Rating	A country	Index	Rating	A country	Index	Rating	A country	Index
1	Norway	0,953	1	Norway	0,954	1	Norway	0,957
2	Switzerland	0,944	2	Switzerland	0,946	2	Ireland	0,955
3	Australia	0,939	3	Ireland	0,942	3	Switzerland	0,955

4	Ireland	0,938	4	Germany	0,939	4	Hong Kong	0,949
5	Germany	0,936	5	Hong Kong	0,939	5	Iceland	0,949
6	Iceland	0,935	6	Iceland	0,938	6	Germany	0,947
7	Hong Kong	0,933	7	Australia	0,938	7	Sweden	0,945
8	Sweden	0,933	8	Sweden	0,937	8	Australia	0,944
9	Singapore	0,932	9	Singapore	0,935	9	Netherlands	0,944
10	Netherlands	0,931	10	Netherlands	0,933	10	Denmark	0,940
49	Russia	0,816	49	Russia	0,824	49	Kazakhstan	0,825
53	Belarus	0,808	53	Belarus	0,817	53	Russia	0,824
58	Kazakhstan	0,800	58	Kazakhstan	0,817	58	Belarus	0,823
83	Armenia	0,755	83	Armenia	0,76	83	Armenia	0,776
122	Kyrgyzstan	0,672	122	Kyrgyzstan	0,674	122	Kyrgyzstan	0,697
186	Chad	0,404	186	South Sudan	0,413	186	South Sudan	0,433
187	South Sudan	0,388	187	Chad	0,401	187	Chad	0,398
188	CAR	0,367	188	CAR	0,381	188	CAR	0,397
189	Niger	0,354	189	Niger	0,377	189	Niger	0,394

Norway for 2018-2020 holds the first position in the human development ranking with an index of 0.953-0.957, this indicator is very high and reflects a high level of quality of life.

Switzerland in 2018 and 2019 occupied the second position with an index of 0.944-0.946, in 2020 it dropped one position and settled in third place with an index of 0.955.

Australia was in third place in 2018 with an index of 0.939, and in subsequent years it has decreased positions and is in seventh place with an index of 0.938 in 2019 and in eighth place with an index of 0.944. Ireland in 2018 was in fourth place with an index of 0.938, while in 2019 and 2020 it improved its positions and took the third and second lines with an index of 0.942 and 0.955.

The countries of the Eurasian Economic Union in the ranking of countries in terms of the level of human development occupy the following positions. In 2018 and 2019, Russia was ranked 49th with an index of 0.816-0.824, while in 2020, due to worsening indicators, it lowered its positions and relied on 52 positions with an index of 0.824. Kazakhstan in 2018 is located on the 58th place with an index of 0.800, in 2019 and in 2020 has improved its positions and located on the 51st line of the rating with an index of 0.817 and 0.825. At the very bottom of the human development ranking are African countries, where there is a very low level of life. When calculating the rating in 2018-2020, the indicators of 189 countries were taken as a basis.

The following countries have the lowest positions in the ranking of the level of human development: Chad, South Sudan, Central African Republic, Niger. Over the past three years, these countries have practically not changed their positions and were at the bottom of the rating from 186 to 189 with index 0.354-0.404.

For countries with a low level of human development, the following are characteristic: a low level of economic development, a lack of own funds for introducing innovations and

modernizing the economy, a lack of development of productive forces, etc., which is reflected in the level and quality of human capital.

To develop the level of human capital, as well as to improve its quality, investments in the form of expenditures on education are necessary, since the higher the expenditure on education, the higher the level of quality, which affects the level of economic development. The most developed countries allocate significant amounts to education and, accordingly, these countries have a higher education index than in developing and backward countries.

An education index over 0.800 refers to high rates and is typical mainly for developed countries. Based on the data in Table 3, we see the indicators of the education index and education spending for 2021. Thus, a high education index has developed in such countries as: Germany with an index of 0.946, Australia - 0.923, New Zealand - 0.923, Denmark - 0.920, Norway - 0.919. These indicators reflect the high level and quality of education, which also depends on the costs allocated to education from the sums of the gross domestic product. But, nevertheless, we see that spending on education in some countries is higher than in countries with a high education index. For example, in Denmark - 8.7% of GDP, in Iceland - 7.8%, in Sweden - 7.3%, in New Zealand - 7.2%, in Finland - 6.8%.

Table 3. Ranking of countries by index and education spending, 2021

Rating	Countries	Education index	Expenditure on education, %
1	Germany	0,946	4,6
2	Australia	0,923	5,1
3	New Zealand	0,923	7,2
4	Denmark	0,920	8,7
5	Norway	0,919	7,3
6	Ireland	0,918	5,7
7	Iceland	0,918	7,8
8	Great Britain	0,916	5,6
9	Finland	0,915	6,8
10	Sweden	0,914	7,3
11	Netherlands	0,906	5,9
12	USA	0,899	5,4
34	Russia	0,832	4,1
39	Kazakhstan	0,817	3,1
47	Ukraine	0,797	5,3
69	Kyrgyzstan	0,734	6,2
186	CAR	0,353	1,2
196	Chad	0,288	2,8
198	Niger	0,247	3,8
Source - 7. Ranking of countries in the world by index and education spending 2022			

The countries of the Eurasian Economic Union in the ranking of countries in the education index occupy the following positions: Kazakhstan is in 39th place with an index of 0.817, Ukraine is in 47th place with an index of 0.797, which are also high rates. Spending on education in Russia in 2021 amounted to 4.1% of GDP, in Kazakhstan - 3.1%, in Ukraine -

5.3% of GDP. Very low indicators of the level and quality of education are observed in the countries of the African continent, for example, in the Central African Republic, the education index and education spending amounted to 0.353 and 1.2% of GDP, respectively, in Chad - 0.288 and 2.8%, in Niger - 0.247 and 3.8% of GDP [7].

The Human Development Quality Index depends on several indicators, one of which is life expectancy at birth. This indicator reflects the number of years that a newborn child can live, provided that death rates do not change throughout his life. Comparing data on life expectancy at birth in the EAEU countries with other countries of the world, it can be noted that this indicator in other countries is higher than in the countries of the Eurasian Union.

The main reason is, most likely, the standard of living of the population in various countries.

In countries with a high level and quality of life, life expectancy is higher than in developing countries. For example, the highest life expectancy is in Australia, where this indicator in 2021 is 83.0 years, in Switzerland - 83.4 years, in Singapore - 83.2 years, in Norway - 82.6 years, in Italy - 83 years.

In general, it can be said that the indicator of life expectancy in the analyzed countries fluctuates slightly upwards.

In the United States, life expectancy in 2021 decreased by 0.4 years compared to 2017 and amounted to 78.5 years. When determining the human development index, various indicators and criteria that include the following:

- determine the chance of a child surviving up to 5 years;
- average number of years of schooling;
- the amount of training;
- Percentage of children under 5 who are not stunted;
- Survival of the adult population [8].

One of the main economic indicators influencing the development of human development is the gross national income. Gross national income (GNI) is the value of goods, works and services received by the country for a certain period of time, in particular for the reporting period. Gross national product includes the entire amount of gross domestic product (GDP) plus income received by the country from abroad, as well as minus income exported from the country [9].

In Kazakhstan, much attention is paid to the development of the level and quality of human capital. To this end, measures are being taken at the state level to improve the quality of education at all levels: primary, secondary, vocational, higher and postgraduate education.

The implementation of measures to develop and improve education has led to the fact that in the ranking of the human development index, Kazakhstan has risen by 7 positions from 58 places with an index of 0.800 in 2018 to 51 places with an index of 0.825 in 2020. This is a positive indicator and indicates that the country is working to improve the level and quality of life of the population, in particular, increasing spending for education. In recent years, a lot of work has been carried out in Kazakhstan to develop and modernize education in accordance with requirements of international quality standards, the introduction of new advanced technologies, the improvement of the material and technical base, which contributes to the improvement of the quality of the human capital. Spending on education is now the main driver of economic development, and investment in education is the main contribution to the future of countries [10,11]. Various methods are used to determine the level of improvement in the quality of human capital, one of which is a sociological survey.

Currently, a sociological survey is used quite often, and the essence of its application lies in the fact that when conducting a survey, respondents are involved, which may be different segments of the population.

The use of a sociological survey in recent years is the best and most reliable, since the principle of randomness is applied and its results form public opinion. In the process of

research work, monitoring was carried out among the population on the issue of improving the quality of human capital. The sociological survey involved 75 respondents who were asked several questions and to which the corresponding answers were received, grouped and determined in percentage terms. Table 4 reflects the tools and criteria for improving the quality of human capital.

Table 4. Tools and criteria for improving the quality of human capital

No	Questions	Number of respondents who answered to questions		% of respondents who answered positively
1	Creation of comfortable living conditions for the population	62	13	82.7
2	Creation of professional conditions for the population self-realization	58	17	77.3
3	Creating conditions for the career growth of young people	9	66	12.0
4	Implementation of work on continuing education, as well as retraining of personnel in connection with changing conditions	43	32	57.3
5	Combining the efforts of educational and scientific potential	41	34	54.7
6	Compliance with social guarantees by the employer	38	37	50.7
7	Stimulating the growth of the qualifications of employees	36	39	48.0
8	Investments in intellectual and professional development of the staff	41	34	54.7

For the further development and improvement of human capital, it is necessary to carry out various measures at the state level, the main of which are:

- development of innovative infrastructure;
- development of the social sphere;
- support for entrepreneurial initiatives, etc.

Based on the foregoing, it can be noted that in practice various methods for calculating the quality of human capital are used, each of which has both advantages and disadvantages. And therefore the problem of studying and developing human capital is still relevant.

The study uses the method of assessing human development - the calculation of the human development index. The Human Development Index (HDI) is a summary measure of achievement in three main areas of human development: a long and healthy life, access to education and a decent standard of living. The HDI value (HDI) is in the range between 0 and 1 and is calculated on the basis of three main indicators: health, education and quality of life. In order to bring the indicators to the form $0 < x$.

Table 5. Formation of measurement indices

Indicators	Rates	Minimum rates (Xmin)	Maximum rates (Xmax)
Health	Life expectancy at birth (years)	20	85
Education	Expected years of study (years)	0	18

	Average number of years of study (years)		15
The quality of life	Gross national income per capital	100	75 000
Note - Compiled by the author based on the source [12]			

Countries with HDI less than 0.550 have low human development;
 0.550–0.699 - average level;
 0.700–0.799 - high level of development;
 from 0.800 and above - a very high level.

Table 6. Indicators for the Republic of Kazakhstan for 2022

Index	Meaning
Life expectancy index at birth (years)	73.6
Expected years of study (years)	15.6
Average number of years of study (years)	11.9
Gross national income per capita (PPP\$)	22 857
Note - Compiled by the author based on the source [12].	

5 Conclusions

Thus, Kazakhstan is included in the category of states with a very high level of human development. However, Kazakhstan is a large country whose population is decentralized along the perimeter. When comparing the socio-demographic indicators of human capital, it can be found that in different areas, in fact, different human capital has been formed, in other words, we see a distorted economic situation - often a high level of well-being of the population in the region is obtained, which does not correspond to reality, this is especially characteristic of countries with a raw material orientation.

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