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Influence of human capital on the competitiveness of the economic system

Abstract

Object: The object of the research is to study the problems of efficient use of human capital and develop on this basis recommendations for the formation of a competitive economic system in Kazakhstan.

Methods: We have applied methods of economic and comparative analysis, classification, economic and statistical methods were used to process the information.

Findings: The results of the study confirm the effectiveness of the development of human capital in the context of globalization and openness of the global economic space that can bring the country to a higher level of development. The authors also consider the problems of forming a modern competitive society in Kazakhstan. Based on a synthesis of foreign experience and an assessment of the competitiveness of Kazakhstan, recommendations are given on improving the mechanism for the formation and development of the economic system. It also offers specific recommendations for improving the quality of intellectual capital in the framework of the formation of a competitive cluster. The influence of human capital on the development of a modern open economy is quite clearly revealed, which determines the direct relationship between the main socio-economic indicators.

Conclusions: The development of innovative infrastructure is necessary to increase the competitiveness of the Republic of Kazakhstan in the domestic and international markets of high-tech products and scientific and technical services.

Keywords: economic system, innovation, human potential, human capital, human development, competitiveness, intellectual potential.

Introduction

In the context of socio-economic modernization of the Republic of Kazakhstan, the formation of a competitive market economy, which implies the formation of the necessary conditions for the effective use of new incentives and mechanisms of economic growth through the implementation of economic policy programs, is particularly relevant.

The specifics of human development in the republic requires a policy in which state regulation and state support play a greater role than in other areas of the economy. A high level of educational potential is seen as creating a country's competitive advantages in various fields - economic, social, political or cultural (Samat, 2019).

It is known that in countries with a market economy, the need for highly qualified specialists is increasing, since the availability of an educated qualified workforce can increase the competitiveness and efficiency of the national economy. In this regard, the development of the economic system should take place in accordance with the laws of a socially oriented economy, where the priority should be indicators of the effectiveness of the country's intellectual potential, the competitiveness of domestic specialists, and the equality in line with international standards (Ramazanov, 2018).

Thus, based on a study of the problems of the efficient use of human capital, it is necessary to develop recommendations on the formation of a competitive economic system in Kazakhstan.

Literature Review

The study of the problem of the formation and effective use of human capital as a factor in increasing the competitiveness of the economic system has been the subject of many works by Western researchers.

The authors of the works in the field of developing this concept are M. Porter (Porter, 2010), G. Becker, W. Hubbard, K. Murphy (Becker, Hubbard, Murphy, 2010), A. Savvides, T. Stengos (Savvides, Stengos,

2009), Erik A. Lenderman (Lenderman, 2017), Kamelia Moh'd Khier Al Monani, Nurasyikin Jamaludin, Wan Zalani Wan Zanani Wan Abdullah, Abdual-Naser Ibrahim Nour (Momani, Nurasyikin, Zanani, Nour, 2020), Ramanauskaitė A., Rudžionienė K. (Ramanauskaitė, Rudžionienė 2013).

The methodological foundations of various approaches and studies of the magnitude of human potential were considered in a number of works by Kazakh and Russian authors, in particular, in the works of S.A. Dyatlov (Dyatlov, 2017), Butkenova A.K. (Butkenova, 2018), Batalov, Yu.V., Kolos E.A. (Batalov, Yu.V. and Kolos E.A., 2011), B. Yessengeldin, (B. Yessengeldin, 2019), G. Aymukhanbetova (G. Aymukhanbetova 2019), and others.

In the Republic of Kazakhstan, questions of the effectiveness of the use of human potential have already received sufficient coverage, and have been reflected in the works of Kazakhstani scientists. At the same time, the multifaceted nature of the studied problem, the presence of unexplored issues that need further scientific, theoretical and practical developments, were the motivation for the authors to conduct this study.

Methods

In the research process, general scientific methods were used: causal analysis, economic and comparative analyzes, classifications, economic and statistical methods.

The basis of the economic and comparative analysis was the ranking of the Global Competitiveness Index, which is derived on the basis of a combination of factors determining the level of labor productivity in a particular country and, thus, the degree of development that can be achieved in the economy.

The economic and statistical method is based on attempts to determine and quantify the degree of economic efficiency of investments in the development of human capital and on this basis to propose measures, the implementation of which would increase the efficiency.

To determine the effectiveness of investments in the development of human capital, the indicators of education efficiency at the macro level (EE) and the intellectual intensity (II) of production in the Republic of Kazakhstan in recent years were calculated.

Sources of statistics for this group of dependencies were statistics from organizations such as the World Economic Forum (WEF), International Institute for Management Development, World Bank, UN.

Results

Such organizations as the World Economic Forum (WEF), the International Institute for Management Development, the World Bank, the United Nations and others are engaged in assessing the competitiveness of different countries.

The World Economic Forum (WEF) experts use the Global Competitiveness Index (GIC), which is derived from an assessment of several dozen key components that are most critical for a country's productivity and competitiveness, as the main ranking tool (Porter, 2010).

According to the WEF, competitiveness is a set of factors that determine the level of labor productivity in a particular country and, thus, the degree of development that can be achieved in the economy. The most competitive is an economy that will grow faster in the medium and long term.

In the methodology of the Global Competitiveness Index for 2010 – 2019, those components that play an increasing role in the country's competitiveness as the economy develops have a greater share.

The components are grouped into three sub-indexes, each of which plays a role at a certain stage of economic development:

- sub-index “Basic requirements” - 37.7% (37.8% in the GIC 2018-2019);
- sub-index “Efficiency Factors” - 50.0% (50.0% in the GIC 2018-2019);
- sub-index “Factors of innovation and complexity” - 12.3% (12.2% in the GIC 2018-2019).

In 2018 and 2019, Kazakhstan ranks 59th in the WEF report with an average score of 61.8 and is in the intermediate group (2-3), located between the categories of countries driven by “Management efficiency” and “Innovation”. This group includes 24 countries: Argentina, Brazil, Hungary, Malaysia, Latvia, Poland, the Russian Federation, Turkey and others.

Compared to the UIS countries, Kazakhstan has a competitive advantage in such factors as “ICT”, “Macroeconomic stability”, “Labor market”, “Market size” and “Business dynamism”.

Kazakhstan demonstrates the weakest positions by factors: healthcare and primary education, development of the financial market, competitiveness of companies and innovation.

For the remaining six factors, the competitiveness of the Republic of Kazakhstan is at an average level: institutions, infrastructure, higher education and training, the effectiveness of the goods market, and technological readiness.

Out of 12 factors of competitiveness, improvement came about on five factors – “Institutes” (+12), “Commodity Market” (+10), “Infrastructure” (+3), “Labor Market” (+3), “Financial System” (+ 2). On three factors, the positions have not changed – “ICT”, “Market Size”, “Innovation Potential”.

In general, the World Economic Forum determined the competitive advantages of Kazakhstan as factors such as the “Labor Market” - 30th place and “Dynamic business” - 37th place. At an average level, factors such as “ICT” (44), “Market Size” (45), “Education and Skills” (57), “Commodity Market” (57), “Institutes” (61), “Macroeconomic Stability” (62)) and “Infrastructure” (69). The most problematic factors for doing business in Kazakhstan, respondents noted corruption (16.7%), access to finance (14.6%), inefficient state bureaucracy (8.0%), tax regime (7.8%).

Compared to last year, the share of respondents reporting low qualifications of employees as the most problematic aspects of doing business decreased significantly - 6.8% (in 2018 - 13.3%).

Table 1. Kazakhstan's position in the Global Competitiveness Index

Indicators	2011-2012	2012 - 2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
The number of countries in the ranking	131	134	133	139	142	144	148	144
GCIRK	61	66	67	72	72	51	50	50
Basic conditions	66	74	74	69	62	47	48	51
Performance factors	58	64	69	71	76	56	53	48
Factors of innovative development	84	77	78	102	114	104	87	89
Companies competitiveness	85	86	88	102	109	99	94	91
Innovation potential	75	62	64	101	116	103	84	85

Note: Made up by authors based on The Global Competitiveness Report 2017-2018

According to experts of the Institute of Economic Research, the most important factors for the growth of Kazakhstan's competitiveness are:

- growth in the share of the private sector in GDP and job creation;
- introduction of innovations;
- development of policies aimed at supporting competition in the market;
- improvement of the institutional system;
- growth in labor productivity;
- attraction of direct foreign and domestic investments;
- expansion of the domestic and foreign market.

However, in the production structure of the Republic of Kazakhstan, the production of extractive industries predominates. The main component of Kazakhstan's exports are fuel and energy products, of which 64.6% are oil and gas condensate. This indicates the preservation of the factor dependence of the country, which does not allow to attribute the economy of Kazakhstan to the group of countries at a more effective stage of development.

Of greatest interest is the analysis of the sub - index “Factors of innovation and complexity”, which consists of two factors: “Conditions for the development of business” and “Innovation”. The leading positions in the WEF ranking are countries with the highest scores for precisely these factors.

In 2014, Kazakhstan was ranked among the 30 most developed countries in terms of two factors that determine its competitiveness: labor market efficiency - 15th place, and macroeconomic environment - 27th place.

A decrease in indicators by the Innovation factor indicates a decrease in the level of technological development of the republic. The dependence of Kazakhstan on external technologies and developments is growing, while the level of development of the country directly depends on the intensity of innovation. The five leaders in the Innovation factor in 2017-2018 included Switzerland, Sweden, Finland, Japan and the USA.

The state is the main source of funding for research and development in Kazakhstan, while in developed countries the share of state funding does not exceed 40%.

According to the statistics of the RK Committee on Statistics, in 2018 the level of innovative activity of Kazakhstani enterprises amounted to 8.0%.

The share of small and medium-sized businesses in the GDP of the Republic of Kazakhstan did not exceed 20%, while in developed countries this indicator is at least 40% of GDP.

Most enterprises buy ready-made technological solutions embodied in technology and equipment. Only 4% of enterprises acquire licensed technology and patents (Butkenova, 2018).

In many countries of the world there is an active process of cluster formation. The cluster approach allows us to consider not a separate enterprise, but a set of interconnected enterprises as a “growth point” in a region. The enterprises that make up the cluster have the opportunity to collaborate and to use resources more efficiently together, which results in a synergistic effect when the potential of the cluster exceeds the sum of the potentials of its constituent elements (Thurow, 1970).

The USA has the largest number of clusters, where about 380 clusters are created. More than half of all US enterprises operate within clusters. A large number of clusters formed in European countries (Italy, Great Britain, France). Clustering of small business in Italy is widespread, providing jobs for 43% of all employed in the economy. Clusters are actively forming in Southeast Asia and China.

In Kazakhstan, the creation of clusters is aimed at creating the necessary conditions for the development of competitive industries in the non-resource sector of the economy. According to experts, today in the republic there is a favorable situation for the development of small business clusters. Strengthening the support of the sector from the state and local authorities will allow to concentrate the allocated resources in specific areas, implement joint projects, and strengthen technological and supply-value inter-regional ties.

The availability of natural resources is an important but insufficient condition for successful competition. Orientation to natural resources makes Kazakhstan's enterprises uncompetitive in international markets. In this regard, it is necessary to create unique products that will be in demand both domestically and in international markets.

For this, Kazakhstan has such a favorable factor as human capital. Human capital is an opportunity to acquire knowledge, creative potential, physical, moral, psychological and social health, spiritual qualities, human mobility, that is, a set of properties that can provide income to the owner (carrier) of human potential and increase profit for the entrepreneur (Kocherbaeva, Stybaeva, 2018).

In a certain sense, under the “bearer of human capital” one can consider both an individual individual, an enterprise, and the state as a whole. In any case, revenue growth has a positive effect on the level of economic development of the state. The carrier of human capital is also its owner. Therefore, the use of human potential is controlled to a certain extent by its owner. For the formation of human potential is not enough material means. The work of the carrier of this potential, as well as the spiritual and cultural investments of the family and society are necessary. Human potential cannot be separated from its owner, therefore it is less liquid (Pulic, 2004).

Correspondence of human capital to the requirements of the economic and scientific-technical situation allows ensuring the efficiency of the economy as a whole, as well as of individual enterprises and organizations. Therefore, at the present stage of socio-economic development of Kazakhstan, the most important task is to manage the process of investing in the development of human potential. Social development programs involve the development of a set of measures to improve the structure of human capital, identifying priority areas, and calculating investment costs. Investments in human capital increase labor productivity and contribute to the growth of a competitive economic system.

Recently, scientists from different countries have repeatedly made attempts to determine and quantify the degree of economic efficiency of investments in the development of human capital and, on this basis, propose measures whose implementation would increase the efficiency. The strategic importance of such a task is very great.

To determine the effectiveness of investments in the development of human capital, it is advisable to calculate the effectiveness of education at the macro level (EE) and indicators of intellectual intensity (II) of production in the Republic of Kazakhstan in recent years:

2017 year: $EE = 3200,2 / 912,026 = 35$;

2018 year: $EE = 3528,4 / 926,6 = 38$;

2019 year: $EE = 3803,3 / 106,9 = 36$.

Therefore, in the Republic of Kazakhstan from 2017 to 2018 there is an increase in the size of GNP per 1 tenge of the educational fund. In 2019, compared with 2018, this indicator decreased.

2017 year: $\Pi = 912,026/3200,2 = 0,028$;

2018 year: $\Pi = 926,6/3528,4 = 0,0026$;

2019 year: $\Pi = 106,9/3803,3 = 0,028$.

Therefore, in the Republic of Kazakhstan from 2017 to 2018, the educational fund is decreasing for each GNP unit. However, in 2019, the intellectual intensity of production has a positive trend.

This proves the need for intellectualization of production, as well as increasing costs in areas that contribute to the development of human potential, namely: education, science, healthcare and culture.

Discussion

The results of our study in the context of the effective use of human capital are a factor in increasing the competitiveness of the economic system of Kazakhstan.

The results achieved by B. Yessengeldin, (Yessengeldin, 2019) consider human capital as the most important factor in the development of a modern innovative economy that ensures the development of the economy and society, including human resources, their knowledge, tools of intellectual and managerial work, living environment and labor activity, ensuring effective and rational functioning of human capital as a productive factor of development. Our approach to the efficient use of human capital is more multifactorial, confirming the fact that training is not always considered only from an economic point of view, and it is also necessary to consider the social effect.

Our results confirm the conclusions of G. Aymukhanbetova (Aymukhanbetova, 2019), who argue that the development of intellectual capital in combination with innovation is the key development factor in an innovative economy.

The author allocates innovative and creative capital as the main internal factor of innovative activity. It is shown that for the realization of intellectual potential in intellectual capital, the presence of three resource components is necessary: personal, informational and innovative potentials. The transformation of intellectual potential into intellectual capital occurs in the process of active activity using the appropriate resources and market opportunities, as a result of which intellectual capital is formed, consisting of innovative, human and structural capital.

We also agree with the results achieved by Kamelia Moh'd Khier, Nurasyikin Jamaludin, Wan Zanani, Wan Abdullah, Abdunaser Ibrahim Nour (Moh'd Khier, Nurasyikin, Zanani, Abdullah, Nour, 2020), which confirmed that intellectual capital, measured using the intellectual coefficient of value added significantly affects the competitiveness of the economic system. The authors show that industrial companies in the commodity economy should have practical experience and knowledge, since it is vital for their competitive advantage, and should reduce unemployment by hiring new employees with experience and skills.

Our results also show the degree of economic efficiency of investments in the development of human capital and on this basis, measures have been proposed whose implementation would increase the efficiency. The strategic importance of this task is very great.

Conclusion

Summarizing all the results of a study of the problems of the efficient use of human capital, it is necessary to note the most significant points:

- it is determined that one of the main factors affecting the competitiveness of the economic system is a person and related social categories such as “human potential”, “human capital”, “human development”;
- it was revealed that the development of the economic system should take place in accordance with the laws of a market-oriented economy; therefore, priority should be given to indicators of the effectiveness of the country's intellectual potential, the competitiveness of domestic specialists, and their quality in line with international requirements;
- it is proved that in modern conditions the development of human capital provides economic efficiency at various levels: national, enterprise, individual. Moreover, measures aimed at developing human capital through a chain of market interactions inevitably lead to competitiveness and economic growth in the country;
 - features of competitiveness of Kazakhstan in comparison with other countries are revealed;
 - identified and analyzed the indicator of the effectiveness of education at the macro level and the indicator of intellectual intensity of the Republic of Kazakhstan;
 - organizational and economic mechanisms have been developed to stimulate Kazakhstan's competitiveness growth factors.

The proposed methods and solutions in the study should increase the effectiveness of the country's competitiveness, its ability to quickly translate research and development into final competitive products.

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Экономикалық жүйенің бәсекеге қабілеттілігіне адам капиталының әсері

Аңдатпа

Мақсаты: Зерттеудің мақсаты адам капиталын тиімді пайдалану мәселелері және осы негізде Қазақстанда бәсекеге қабілетті экономикалық жүйені қалыптастыру бойынша ұсыныстар әзірлеу болып табылады.

Әдісі: Мақаланы жазу кезінде экономикалық және салыстырмалы талдау, жіктеу тәсілдері, ақпаратты өңдеу үшін экономикалық-статистикалық әдістер қолданылған.

Қорытынды: Зерттеу нәтижелері жаһандану және әлемдік экономикалық кеңістіктің ашықтығы жағдайында елді неғұрлым жоғары даму деңгейіне шығаруға қабілетті адам капиталының даму тиімділігін растайды. Авторлар сондай-ақ Қазақстандағы қазіргі заманғы бәсекеге қабілетті қоғамды қалыптастыру мәселелерін қарастырған. Шетелдік тәжірибені жинақтау және Қазақстанның бәсекеге қабілеттілігін бағалау негізінде экономикалық жүйені қалыптастыру және дамыту тетігін жетілдіру бойынша ұсынымдар берілген. Сонымен қатар, бәсекеге қабілетті кластерді қалыптастыру шеңберінде зияткерлік капиталдың сапасын арттырудың нақты ұсыныстары қаралған. Қазіргі заманғы ашық экономиканың дамуына адами капиталдың әсері жеткілікті түрде айқын анықталады, бұл негізгі әлеуметтік-экономикалық индикаторлардың тікелей өзара байланысын негіздейді.

Тұжырымдама: Инновациялық инфрақұрылымды дамыту ҚР-ның ғылымды қажетсінетін өнімдер мен ғылыми-техникалық қызметтердің ішкі және халықаралық нарықтарында бәсекеге қабілеттілігін арттыру үшін қажет.

Кілт сөздер: экономикалық жүйе, инновациялар, адами әлеует, адам капиталы, адами даму, бәсекеге қабілеттілік, зияткерлік әлеует.

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Влияние человеческого капитала на конкурентоспособность экономической системы

Аннотация

Цель: Целью исследования являются изучение проблем эффективного использования человеческого капитала и разработка на этой основе рекомендаций по формированию в Казахстане конкурентоспособной экономической системы.

Методы: При написании статьи использованы приемы экономического и сравнительного анализа, классификации, для обработки информации использовались экономико-статистические методы.

Результаты: Результаты исследования подтверждают эффективность развития человеческого капитала в условиях глобализации и открытости мирового экономического пространства, способного вывести страну на более высокий уровень развития. Авторы также рассматривают проблемы формирования в Казахстане современного конкурентоспособного общества. На основе обобщения зарубежного опыта и оценки конкурентоспособности Казахстана даны рекомендации по совершенствованию механизма формирования и развития экономической системы. Также рассмотрены конкретные рекомендации повышения качества интеллектуального капитала в рамках формирования конкурентоспособного кластера. Достаточно четко выявляется влияние человеческого капитала на развитие современной открытой экономики, что обуславливает прямую взаимосвязь основных социально-экономических индикаторов.

Выводы: Развитие инновационной инфраструктуры необходимо для повышения конкурентоспособности РК на внутреннем и международном рынках наукоемкой продукции и научно-технических услуг.

Ключевые слова: экономическая система, инновации, человеческий потенциал, человеческий капитал, человеческое развитие, конкурентоспособность, интеллектуальный потенциал.

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