

NEWS

OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

SERIES OF SOCIAL AND HUMAN SCIENCES

ISSN 2224-5294

Volume 5, Number 309 (2016), 90 – 97

N. Kurmanov¹, A. Rakhimbekova¹, A. Makhatova², U. Aliyev³

¹Kazakh University of Economics, Finance and International Trade, Astana, Kazakhstan;

²University Narxos, Almaty, Kazakhstan;

³ Academy of Public Administration under the President of the Republic of Kazakhstan, Astana, Kazakhstan

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

**HIGHER EDUCATION SYSTEM IN THE CONDITIONS OF
INNOVATIVE ECONOMY FORMATION**

Abstract. The article is devoted to the modernization of economic relations in higher education at the stage of the intellectual potential as the basis for innovative development of the country. Education is one of the key resources to ensure economic growth and prosperity of the country, while its value is constantly increasing. In the article the authors identified key factors affecting the ability of companies to implement innovation. The shortage of qualified personnel is the most limiting factor in the development of innovative economy. In this regard, the problems of functioning and development of national systems of higher education needs to be given special attention.

Keywords: education, higher education, intellectual resources, innovative economy, the Republic of Kazakhstan.

1. Introduction

Based on the classification by the World Bank, Kazakhstan is an upper-middle income country, with its GDP per capita equal to approximately USD 13,000 in 2014 (24,205 USD based on the purchasing power parity in 2014) [1]. Kazakhstan is a big country with a small population. It is a country rich in resources with huge reserves of oil, gas, minerals and nonferrous metals. The country has shown such a sustainable growth in mining oil and gas condensate in the past decade that by 2020 Kazakhstan can become one of the leading suppliers of hydrocarbon. Due to major direct foreign investments into the mining sector, an increase in the volumes of export of raw materials and import of equipment has improved economic transparency. In 2013, the ratio of exported goods (percentage of GDP) reached 38.25% [1]. The oil and gas export comprises 60-70% of Kazakhstan's total exports [2].

The collapse of the Soviet Union was later followed by a sharp decline in the volumes of production which led to economic instability. Nevertheless, for the past decade Kazakhstan has shown very good economic performance: the annual growth rate of GDP averaged 10% in the period of 2000-2007. The growth stopped in 2008 due to the negative impact of the world economic crisis on external financing and decreasing raw material prices. After a sharp decline in 2008, the economy had recovered only by 2014 when GDP increased by 4,3%.

In 2015, low oil prices and hard terms of accessing finance lead to a 1.1% fall in the GDP again, which creating geopolitical tension.

The mining of raw materials has given an impulse to the growth of Kazakhstan's economy. As a result, the government has stressed on the necessity to develop other dimensions of growth and gain an economic competitive advantage. As a solution to the problem of enlarging the dimensions of economic activities, recourses are given in order to modernise the economy and reconstruct the infrastructure.

Nowadays, the share of innovation-active enterprises of all enterprises in Kazakhstan is equal to 8,1%. In comparison, such shares make up to 50% in the USA, while Germany (79,3%), Sweden (60%), Finland (58%) have the highest shares among the EU countries. The average share of innovation-active enterprises in the European Union is around 53% [3].

In Kazakhstan, innovation activity of all enterprises of the real economy remains very low. Innovative entrepreneurship doesn't define the overall economic climate relevant to SMEs: in 2014, the contribution of SMEs to the economy made up to 1,5% [4].

Currently, the economy of the Republic of Kazakhstan is showing an unstable economic growth and is still oriented on the mining industry. This restricts transformation to a new quality level of economic development and implementation of innovative reforms in the economy to gain a competitive advantage and slows down positive structural changes. In times of economic stagnation caused by fluctuations on the raw materials markets, further integration of economic reforms makes it possible to turn Kazakhstan into a competitive and innovative economy. In order to realise these opportunities, it is important to set innovation goals, formulate institutional terms and mobilise the innovative potential for a successful transformation.

2. Brief Literature Review

Many economists and practitioners focus their attention on the scientific support of innovation management in the economic and social spheres. Individual theoretical and practical aspects are considered in the works by Bianchi et al. (2010) [5], Rothwell and Dodgson (1991) [6], Acs et al. (1997) [7], Edwards et al. (2005) [8], Jenkins (2009) [9], Çakar and Ertürk (2010) [10] and others.

Krasikova et al. (2014) [11], Kurmanov et al. (2015) [12], Yeleussov et al. (2015) [13] have made a great contribution to the theory of innovation within the changing paradigm of higher education.

Kazakh scientists, among whom are Dana (2010) [14], Radosevic and Myrzakhmet (2009) [15], Smirnova (2013) [16], Kurmanov et al. (2016) [17] also try to determine factors that impact the innovative activity of SMEs. However, a significant number of scientific issues related to the effective state management of innovative processes within the economy remain outstanding in the context of Kazakhstan.

3. Methods

In order to evaluate key factors, which have an influence on innovation activity of SME, Committee on Statistics of MNE RK statistical data was used. Results of research were derived from: the sample group analysis of 31,784 SMEs in 2015 and 8,022 SMEs in 2004 SMEs holding their activities in the Republic of Kazakhstan, statistical data, expert's opinion on the innovation potential of the State. The research methodology is based on the processing of secondary data that makes it possible to conduct a preliminary analysis of the problems.

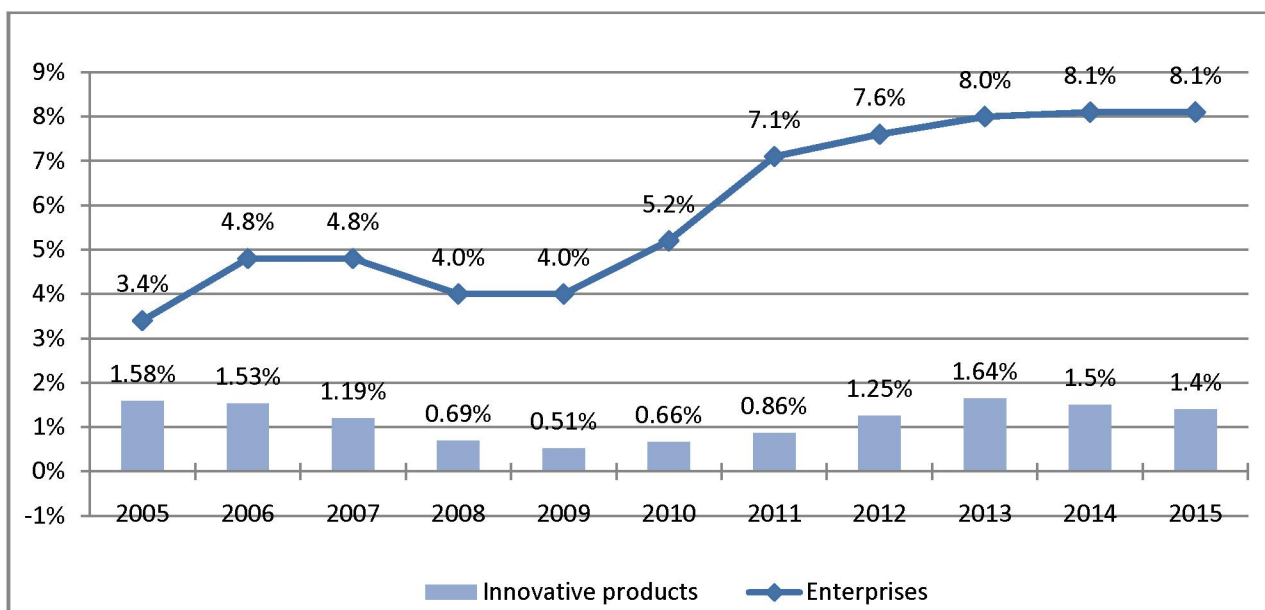


Figure 1 - Innovation activity of Kazakhstan enterprises (share of innovative products in GDP, and share of innovation led enterprises among all enterprises)

Source: Committee on Statistics of MNE RK, <http://stat.gov.kz>

4. Results

4.1 Innovative activity in Kazakhstan

In 2015 in relation to 2005, shares of innovation active enterprises had increased from 3,4% to 8,1% (Figure 1).

To draw comparison: in USA shares of innovation active enterprises make up to 50%; among the European Union countries highest shares have Germany (79,3%), Sweden (60%), Finland (58%). Medium share of innovation active enterprises in the European union compiles around 53%.

Research and development expenses are one of the main indicators of innovation activities. Leaders of this indicator are USA (415 billion USD), China (208,2 billion USD), Japan (146,5 billion USD), Germany (93,1 billion US dollars).

It is necessary to mention the quick growth of research and development expenses in China. Compared to 2008, this indicator has increased by 1,7 times. Kazakhstan is lagging behind technologically developed countries on the scale of research and development expenses. However, compared to 2011 growth of expenses on research and development in 2013 (61,7 billion KZT) was 42,5 % [3].

It should be noted that the innovation development in Kazakhstan is restrained by the lack of personnel, capable to manage innovation processes and projects. Despite positive statistics in the scientific sector, science staff in Kazakhstan requires effective State support and additional stimulation.

Low involvement of SMEs in Kazakhstan in the implementation of innovations urges the need to determine the relevant factors and take measures to develop innovation-active processes at SMEs.

Table 1 contains data on evaluating factors affecting innovation activities in the period of 2004 to 2015.

Data of the 11-year period demonstrates change of SMEs opinions on factors, influencing SMEs opportunities in carrying out innovation activities.

Table 1-Factors affecting innovational activities, in % of total number of enterprises

	2004	2015
Low innovative potential of the enterprise including the shortage of financial assets and competent personnel	21,8%	37,5%
Shortage of financial assets from external financing resources	27,2%	1%
Innovations are regarded unnecessary due to the lack of demand in innovations	10,4%	34,2%
Innovations are regarded unnecessary due to earlier innovations	18,8%	6,2%
Lack of information on technologies and markets	14%	0,3%
High economic risk	20,2%	4 %
Source: Calculated by the authors based on [4]		

According to the enterprisers the most critical factors were: lack of financial resources, and competent personnel. These two factors were mentioned by 37,5 % of questioned SMEs in 2015 and 21,9% SMEs in 2004.

In 2004 SMEs were highly dissatisfied with loan funds. In 2004, 27,2 % of respondents mentioned high interest to borrowed capital. However in 2015, only 1,0% of questioned SMEs, selected the shortage of financial assets, restricting innovation activity.

High economical risks of implementing innovations were selected as one of the significant factors (in 2015 -4,0%, in 2004 - 20,2%).

The following matters for innovation led by SMEs are essential: they find it unnecessary to implement innovation due to the lack of demand for innovations (in 2015- 34,2%, in 2004 - 10,4%), and due on earlier innovations (in 2015 - 6,2%, in 2004 - 18,8%).

Another critical matter was the lack of information on new technologies, and undeveloped corporate communications. 0,3% in 2015 and 14% in 2004 of SMEs have stated these problems.

The conducted analysis has shown a very low innovation activity of small and medium-sized enterprises in Kazakhstan compared to other countries.

Business communities shall recognize that companies' ability to implement innovations can be a powerful trigger to competitive advantage and process effectiveness, which are so important for small companies which have the understanding that research and development expenses are investments into future development [18].

It is important to note that all factors determined in this paper were also listed by other researchers and experts, which only confirms the importance of the relevant issue. Low innovative activity of SMEs together with growth factors must be reevaluated by the government. The implementation of effective financial mechanism, training and development of personnel, amendments to laws and regulations, development of small and medium-sized enterprises are impossible without institutional changes with regard to not only innovation-led enterprises but also to businesses in general.

4.2 Higher education development in Kazakhstan

Thousands of businessmen and entrepreneurs completed training and received professional management education based on programs of Kazakhstan business schools.

The quality of education has a direct impact on improving the enterprises competitiveness and enhancing the business climate in the country.

According to the World Bank rating, Kazakhstan's achievements in business education have a positive trend. Thus, for example, in 2009 the country was ranked 64th, whereas in 2014 it was ranked 50th. According to the global ranking "Doing Business-2015" of the World Bank, which covered 189 countries worldwide, Kazakhstan occupies 77th position in terms of the overall business climate [1]. However, the rating downgrade is due to a change in methodology for calculating the index.

The increase in the country's competitiveness index may also indicate the improvement of the business education quality.

According to the «Global Competitiveness Report 2014-2015» published annually by the World Economic Forum (WEF), Kazakhstan again was ranked 50th with an average score of 4.4, holding steady results of the previous year and being ahead of Russia (53rd position), Ukraine (76th position), and Armenia (85th position). Competitive advantages of Kazakhstan, according to WEF experts, still are labor market efficiency (15th position, 2013-15) and the macroeconomic environment (27th position, 2013-23).

In terms of higher education and professional training index, which indicates the involvement of the population in secondary-level and higher education, training quality and professional development, Kazakhstan is at the average level [19].

The sharp decrease of the indicator by 8 grades is due to lowering the involvement of population in secondary school from 101.9% to 97.7% (42, -13), as well as staff development (-6 positions). Respondents' opinions about the quality of the education system slightly improved from 3.4 to 3.6 points (76, +12). It should be noted that in comparison with the results of last year, the percentage of respondents, who indicate low-skill of personnel as the most problematic aspect of doing business, has significantly declined down to 6.8% from 13.3% in 2013 [20].

As for the quality of management schools, Kazakhstan is ahead of most CIS countries, including Russia, though behind the Ukraine and the Baltic countries. In terms of personnel development, Kazakhstan is second only to the Baltic countries (Table 2).

Table 2 -The competitiveness ranking of some CIS countries as pertaining to higher education and training

Indicator	Kazakhstan	Russia	Moldova	Armenia	Ukraine	Tajikistan	Estonia	Azerbaijani	Latvia	Lithuania
Higher education and personnel training	62	39	84	75	40	88	20	90	31	26
Quality of management schools	92	104	125	116	88	108	48	124	52	60
Quality of the education system	76	84	103	86	72	58	35	104	65	55
Personnel development	62	89	120	119	92	103	36	94	33	50
Source: Calculated by the authors based on [20]										

Thus, it is logical to assume that the positive changes in the business environment are largely due to an increase in the quality of national business education.

At the same time, the results of an opinion poll, held by the Department of Students Affairs of "Kesipkor" Holding, show that about 63% of Kazakh employers are not satisfied with the graduates training level. Besides, 44.5% of employers noted that in general they are not satisfied with the level of graduates training in Kazakhstan. At that, 18% of employers noted that today's business education does not meet modern economy requirements and needs. The study showed that 32% of employers cannot fill their vacancies with suitable personnel [21].

The effectiveness of business education in the Republic of Kazakhstan can be judged by the results of the survey taken by participants of "Business Advisor" project, who were trained from 2011 to 2013, as well as by monitoring of their business activities (Marketing and social research agency «Damu Research Group», 2013). Based on a questionnaire and a telephone survey, most students (64%) assess the level of course taught as "very high". In fact, 98% of the participants agreed with the following statement: "During the workshop I got a lot of new and interesting information". Another statement: "Workshop's topics directly reflected the specifics of my job" also has received high positive assessment: 85% in 2012 and 70% in 2013.

According to the survey carried out among the "Business Advisor" project participants, the greatest interest of all "CST-2020" projects was caused by the topic "Subsidizing the interest rate on the loan", which accounted for 68% of all the respondents. The second most important topic for entrepreneurs was "Ensuring lending", accounting for 59%. Besides, almost 43% of entrepreneurs, who completed short-term courses, would like to seek service support within a framework of "CST-2020" projects. The lowest interest was caused by the "Damu-Startup" project; just 12% of respondents expressed their interest in this product, probably due to the fact that this area is relatively new and target audience yet did not have time to learn all the benefits of this service.

With regard to business education in MBA programs, it has the potential demand mostly among professionals or company managers, who wish to enhance their professional skills and to achieve certain career goals. On the other hand, the need to acquire additional knowledge in business is required also by self-employed professionals and business owners. The age of this target audience ranges presumably from 25 to 39. The values of this group are based on the career and professional development, therefore for them MBA is a topical product to meet their needs.

According to the research, which is presented by Kurmanov et al. average progress skills of students in acquiring various courses is as follows: special skills (according to the learned course within the program) (50%), leadership (37.5%), teamwork (33%), oral communication (19%), planning (19%), and project management (19%) [20,21].

Currently, many Kazakh companies lack qualified professionals. Negative trends in the education system are dramatized by structural problems, including outdated models of educational process management, as well as lack of up-to-date teaching and administrative personnel.

The following challenges can be highlighted as the main problems hindering the development of business education in the Republic of Kazakhstan, (Kozhakhmetov, & Kurinkeeva, 2012).

The lack of MBA programs at the National Universities;

The lack of research on business education in the Republic of Kazakhstan;

The lack of development strategy of education in Kazakhstan;

The lack of professional rankings of business schools and programs;

The poor quality of the students selection for the program courses (students without practical managerial experience are usually admitted for training);

The lack of qualified teachers, practitioners and educators teaching in the Kazakh and English languages;

The lack of internationalization of higher education teaching personnel (domestic teachers do not teach abroad);

The lack of students international mobility (both Kazakh and foreign),

The lack of career centers at business schools for MBA graduates;

Business education is not considered as the business infrastructure element;

The lack of national standards of business programs (MBA and DBA);

The programs lack practical component, i.e. Kazakhstan-oriented cases;

The lack of state educational grants for MBA and DBA programs;
The high concentration of business schools (more than 80% of MBA programs are held in Almaty);
Non-transparency of the business education statistics;
High rates of educational loans;
The lack of professional associations of business schools.

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

In bachelor degree courses:

Increased competition between universities, providing training in the field of economics.
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.
Strengthening the orientation of students on economic universities with a high level of graduates employment.

In master degree courses:

Increase in the number of MBA students.
Increasing competition between local and foreign business schools.
1st group - Kazakhstan business schools and universities;
2nd group - Russian business schools;
3rd group - Western business schools.
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.
Increasing government regulation of MBA programs in the short term perspective and the reduction of state regulation in the long run.

In DBA programs:

Increasing integration into the international business education system;
Creation and development of national programs, including those in national language;
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:

A dramatic increase in demand for short-term programs.
Increasing focus on corporate workshops as compared to public ones.
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

Integrative processes provide an opportunity for Kazakhstan to expand its markets and increase its capacity for innovation. Competitive pressure creates a huge incentive for Kazakhstan enterprises to innovate. To take full advantage of these opportunities, it is necessary to make effective policy measures to support further modernization and diversification of the economy.

The questions regarding innovative processes, management improvement, and innovative achievements are now becoming more relevant. They require the participation of the various layers of Kazakh society. At the same time, as evidenced by the latest Kazakhstan experience, the coordinating and controlling (combining) role of the state in this area is becoming increasingly important and serves an inherent function.

In conclusion, it should be noted that today's education market includes strongest players, who have the ability to provide exclusive educational product that has practical significance and is designed for each individual economy sector. Business schools in the Republic of Kazakhstan must be more actively involved in improving the system-related economic and business education. They must govern its

legislative and state education policy, improve education towards its internationalization, enhance and deepen cooperation with the business schools worldwide.

REFERENCES

- [1] The World Bank (2015). *World Development Indicators*. Washington, DC: the World Bank
- [2] Alpysbaeva, S. N. (2013). Macroeconomic policy of Kazakhstan in terms of volatility of global markets. *Proceedings of National Academy of Sciences of Kazakhstan. Social sciences and humanities Series, 4*, 22-26 (in Russ.).
- [3] National Agency for Technological Development (2013). Information-Analytical Report "On development trends of innovation in the Republic of Kazakhstan and in the world". Retrieved from www.natd.gov.kz (in Russ.)
- [4] Committee on Statistics of Ministry of National Economics of the RK (2016). The official statistical information. <http://stat.gov.kz>
- [5] Bianchi, M., Campodall'Orto, S., Frattini, F., & Vercesi, P. (2010). Enabling open innovation in small-and medium-sized enterprises: how to find alternative applications for your technologies. *R&D Management, 40*(4), 414-431.
- [6] Rothwell, R., & Dodgson, M. (1991). External linkages and innovation in small and medium-sized enterprises. *R&D Management, 21*(2), 125-138.
- [7] Acs, Z. J., Moreck, R., Shaver, J. M., & Yeung, B. (1997). The internationalization of small and medium-sized enterprises: A policy perspective. *Small business economics, 9*(1), 7-20.
- [8] Edwards, T., Delbridge, R., & Munday, M. (2005). Understanding innovation in small and medium-sized enterprises: a process manifest. *Technovation, 25*(10), 1119-1127.
- [9] Jenkins, H. (2009). A 'business opportunity' model of corporate social responsibility for small-and medium-sized enterprises. *Business ethics: A European review, 18*(1), 21-36.
- [10] Çakar, N. D., & Ertürk, A. (2010). Comparing innovation capability of small and medium-sized enterprises: examining the effects of organizational culture and empowerment. *Journal of Small Business Management, 48*(3), 325-359.
- [11] 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.
- [12] 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
- [13] Yeleussov, A., Kurmanov, N., & Tolysbayev, B. (2015). Education quality assurance strategy in Kazakhstan. *Aktualni problemy ekonomiky (Actual Problems of Economics), 2*, 142-150.
- [14] Dana, L. P. (1997). Change, entrepreneurship and innovation in the Republic of Kazakhstan. *Entrepreneurship, Innovation, and Change, 6*(2), 167-174.
- [15] Radosevic, S., & Myrzakmet, M. (2009). Between vision and reality: Promoting innovation through technoparks in an emerging economy. *Technovation, 29*(10), 645-656.
- [16] Smirnova, Y. V. (2013). The Innovation Infrastructure of Kazakhstan: Why did the Innovation. *Quality Innovation: Knowledge, Theory, and Practices: Knowledge, Theory, and Practices, 322*. DOI: 10.4018/978-1-4666-4769-5.ch015
- [17] 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
- [18] Kurmanov, N., & Aibosynova, D. (2015, September). The modern state of enterprise Innovation Activity in Kazakhstan. In *CBU International Conference Proceedings* (Vol. 3, pp. 129-140).
- [19] 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).
- [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] 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

УДК 338.1

Н.А. Курманов¹, А.Е. Рахимбекова¹, А.Б. Махатова², У.Ж. Алиев³

¹Қазақ экономика, қаржы және халықаралық сауда университеті; ²«Нархоз» университеті;

³Қазақстан Республикасы Президентінің жанындағы Мемлекеттік басқару академиясы

ИННОВАЦИЯЛЫҚ ЭКОНОМИКА ҚАЛЫПТАСТЫРУ ЖАҒДАЙЫНДАҒЫ ЖОҒАРЫ БІЛІМ БЕРУ ЖҮЙЕСІ

Түйіндеме. Мақала мемлекеттің инновациялық дамуының негізі ретінде жоғары білім жүйесінің экономикалық қатынастардың модернизациялау мәселенеріне арналған. Білім мемлекеттің экономикалық және қамтамасыз ететін ең басты ресурс болып табылады.

Мақалада авторлармен кәсіпорындардың инновациялық экономиканың дамуына әсер ететін факторлардың бірі жоғарғы білікті кадрлардың жетіспеушілігі. Сол себептен, жоғарғы білімнің ұлттық жүйесін дамыту мен құру мәселелеріне аса көп көңіл бөлу керек.

Қазақстан Республикасының инновациялық зерттеу мақсаты экономикасын құруы шарт негізінде жоғарғы білім жүйесін дамытуы бойынша тәжірибелік және қамтамасыз ету үшін кеңес беру болып табылады.

Кілт сөздер: білім, жоғарғы білім жүйесі, интеллектуалдық ресурстар, инновациялық экономика, Қазақстан Республикасы.

СИСТЕМА ВЫСШЕГО ОБРАЗОВАНИЯ В УСЛОВИЯХ ФОРМИРОВАНИЯ ИННОВАЦИОННОЙ ЭКОНОМИКИ

Н.А. Курманов¹, А.Е. Рахимбекова¹, А.Б. Махатова², У.Ж. Алиев³

¹Казахский университет экономики, финансов и международной торговли; ²Университет «Нархоз»;

³Академией государственного управления при Президенте Республики Казахстан

Аннотация. Статья посвящена проблеме модернизации экономических отношений в системе высшего образования на этапе формирования интеллектуального потенциала как основы инновационного развития страны. Образование является одним из ключевых ресурсов, обеспечивающих экономический рост и процветание стран, при этом его значение непрерывно возрастает. В статье авторами были выявлены ключевые факторы, оказывающие влияние на возможности предприятий по осуществлению инновационной деятельности. Нехватка квалифицированных кадров является наиболее сдерживающим фактором развития инновационной экономики. В этой связи, проблемам функционирования и развития национальных систем высшего образования необходимо уделить особое внимание.

Целью данного исследования является выявление особенностей и практических рекомендаций по развитию системы высшего образования в условиях формирования инновационной экономики в Республике Казахстан.

Ключевые слова: образование, система высшего образования, интеллектуальные ресурсы, инновационная экономика, Республика Казахстан.