

# Integration of Education, Science and Business as the Basis for Innovative Development of the Economy

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## Abstract:

The article considers the role of higher education as one of the most important incentives for introducing innovations, without which the progressive development of the economy is impossible. The emphasis is placed on several areas of concentration of efforts of universities, the state and business that are relevant for the Republic of Uzbekistan, which will allow universities to carry out effective educational and research activities, flexibly respond to economic demand and be a real subject of economic relations, the driving force for the development of regions.

**Keywords:** *Integration, education, science, business, innovative development, economy.*

## Introduction

One of the main functions of a modern university - ensuring the development of the region - is becoming increasingly important in the modern world. A strong educational system in the region makes it possible to solve socio-economic problems and helps to equalize the living standards of the population. [4]. Higher education is also considered as one of the most important incentives for introducing innovations, without which the progressive development of the economy is impossible. This is especially true for higher education institutions, combined with business structures in the so-called innovation chains.

In the Republic of Uzbekistan, the regional aspect of the state innovation policy is one of the foundations for the formation of industrial policy and provides for the future creation of local innovative industries, scientific and industrial complexes focused on the production of high-tech products. This requires the development of institutional mechanisms for regulating innovation in the regions. The problem of the situation lies in the fact that the practice of interaction between the university and the regional community has not yet become part of the development strategy of most domestic universities and is not perceived as a

possible resource for increasing the social, image, financial capital of the university.

## Theoretical background

As foreign experience shows, leading universities in the world play a large role in the innovative development of regions. They are the main basis for basic scientific research, creating conditions for the technological, socio-economic development of the regions. Through the use of the latest research, as well as the organization of forums for the exchange of views in this field, universities are actively involved in diversifying the existing industry, expanding the spectrum of its technological activities. University research is an important part of the process of training scientific personnel, the accumulation of scientific and pedagogical potential of the region. Universities contribute to the updating of existing technological knowledge by concluding contracts for research, consultations, educational programs and trainings, and often become a "pole of attraction" for enterprises from high-tech industries in their region, and also facilitate the import of firms' activities and the formation of a local level from development [4].

At the same time, education remains a key link in stimulating regional development. An

important contribution of universities to innovation is the development of a corporate education system on their basis, which leads to the differentiation of the educational process. Thus, corporate education becomes a mechanism for the practical implementation of the feedback between industry and education. Since the university, providing graduates with fundamental academic education, does not always have the opportunity to transfer specific practical skills to them, enterprises themselves must take an active part in training their future staff.

### **Main part**

Building a knowledge-based economy in the regions and in the country as a whole poses an important task for domestic universities: to occupy their intellectual niche in creating a triple spiral of the innovation system of the regions and the country, to become centers for generating new knowledge and innovations, and to provide priority human sectors with qualified human resources. The modern interaction and mutual influence of the university, government and business also takes place within the framework of the Triple Helix Theory (Triple Helix, G. Itskowitz) describes a model of balanced interaction of triplex spirals - the main institutions that are key elements of the innovation system - the relationship between government, business and universities [6].

All participants of the innovation system in the triple helix model have certain requirements. The University is developing a component of its activities in the ideology of an entrepreneurial university, including increasing its institutional independence and academic freedoms, increasing the volume and providing a world-class level of fundamental and applied research, and ensuring the integration of entrepreneurial activity in the daily academic work of the university.

In turn, a business must ensure its competitiveness based on scientific and technological developments. Innovation should be a central element of company development strategy.

Business promotes cluster development. Business forms a high level of corporate culture.

The requirements for power in the triple helix model are to develop and strengthen institutions of private property, information and intellectual law, civil society, legal proceedings, and expert other communities; implementation of priority areas of development by allocating 3.5-5% of GDP to science and innovation. At the same time, it is important that all participants demonstrate their readiness to form hybrid organizational formats in the sphere of triple interaction [3].

There are several areas of concentration of efforts of universities, the state and business that are relevant for the Republic of Uzbekistan:

The first direction is the introduction of practice-oriented training in the higher education system. In this regard, an important step for domestic universities is the transformation from traditional universities into research universities and their transformation into real subjects of a knowledge-based economy. Domestic universities will have to implement new mechanisms for the intensive implementation of the results of scientific activity. They should become centers of advanced research commissioned by the state and enterprises, centers of real integration of science and education within the walls of universities through the active involvement of teachers and students in research.

In this direction, it is important to develop the integration of universities and business in the field of creating and implementing joint educational programs in the educational process for targeted training of specialists, the participation of employers in the educational process, the final certification of specialists, as well as in the field of integration, the creation of practice bases and in-depth training of specialists with passing practical training on the basis of enterprises starting from the 1st year. Support and funding from the state is required for a dual, inclusive education and double diploma programs with foreign partner universities. At the initiative of local universities, today it is necessary to create Councils of employers, implement Concepts

of continuous practical training, hold Annual Employer Forums and job fairs, and work with entrepreneurs from the Republic of Uzbekistan and regional Employment Centers. Such initiatives should be supported by the state; integration of efforts and the active participation of city and regional enterprises are also necessary in their implementation.

As world experience shows, all the most successful developed countries are building high-tech industries on the basis and with the active participation of leading universities. It is large high-tech areas with a core in the form of a research university that become the growth points of the innovation system. Business incubators, science and technology parks, research and development centers created at universities are becoming a source of economic activity and international exchange. Of great importance is the real work of universities with global high-tech companies to create joint laboratories and centers. Leading universities of the country should work purposefully in accordance with such world experience, within the framework of the integration of science and education, create educational and research centers and laboratories of world famous companies. At the international level, universities create joint research and educational centers and laboratories with countries such as Germany, the UK, Pakistan, Poland, etc. Their activities will give a powerful impetus to the further introduction of the latest teaching technologies, the cooperation of science and business at the world level in the curriculum. The creation of such centers of excellence and research is necessary and in conjunction with large Uzbek companies [2].

In addition, domestic universities for the effective implementation of this direction need:

- increasing the involvement of employers in the training process: a targeted order for training in cooperation with industry.

- Creation of a free and permanent base of practices for trained specialists in enterprises, starting from the 1st year.

- the creation of educational programs focused on targeted training in conjunction with large enterprises.

- Introduction of certification and certification mechanisms, personnel training and retraining systems using modern training technologies and leading foreign partner universities

The second direction is the formation of mechanisms for joint targeted training of specialists for the needs of industrial and innovative development and regions. Inclusion of at least 10 higher educational institutions of the republic in the first 1,000 positions of the list of higher educational institutions in the ranking of internationally recognized organizations (Quacquarelli Symonds World University Rankings, Times Higher Education or Academic Ranking of World Universities), including the National University of Uzbekistan and Samarkand State University - in the first 500 positions of this list [7]. As part of the implementation of the state program of innovative development, measures are being taken to increase the volume of the state educational order for training in the master's and doctoral PhD programs, as well as the number of educational programs in collaboration with leading foreign partner universities and research centers. This, of course, improves the quality of training and the degree of involvement of the Republic of Uzbekistan in the global educational space. In the future, in promising areas of innovative development, it is necessary to provide for socio-professional accreditation of educational master's programs and certification of specialists in professional and internationally recognized agencies. This will directly contribute to the international recognition of diplomas and increase the competitiveness of graduates.

Today, training for the needs of the economy is concentrated not only in universities: there are programs of additional professional education, advanced training, training and retraining of personnel in regional and city employment centers, etc. However, this training is carried out by local executive bodies and employment centers

independently, without the participation of universities, in which all modern educational and scientific innovative technologies and resources are concentrated. As a result, the question arises about the quality of this training and its effectiveness. To increase the effectiveness of continuing education programs, from our point of view, it is necessary to combine efforts and attract universities to these programs of training and retraining of specialists. It is also necessary to formulate a target order from regional enterprises.

The third area is the creation of Start up and Spin off companies together with leading universities. Nowadays, local universities have concentrated unique intellectual potential, a powerful scientific, laboratory and experimental base. Universities need to increase the efficiency of engineering laboratories and create high-tech areas for small innovative enterprises. For the effective integration of universities and business, the creation of Startup and Spinoff companies, universities need:

- Extension of the autonomy status of national universities, transformation into research universities;

- Introducing amendments to the legislation and providing universities with special status with the right to independently create and act as founders (participants) of other legal entities.

- In accordance with world practice, it is necessary to develop and adopt legislation on endowment funds and to exempt from tax all sponsorship amounts that are targeted for science and education.

- Creation of a legislative framework for the commercialization of scientific products, the development of services and commercialization of the results of scientific products.

As world practice shows, recognized foreign universities are the locomotives for the successful development of their states and regions and become points of growth for the innovation system. Remembering the country, we can precisely name its leading universities: for example: Oxford and Cambridge in the UK, Princeton and Stanford in the

USA, Seoul University in Korea, Peking University in China and others.

However, a comparison of such universities with universities in Uzbekistan shows the lag and weak competitiveness of the latter. Here I would especially like to emphasize that our universities must have the same opportunities as foreign universities to enter the top rankings. It is known that in order to increase the competitiveness of education and entering the top 100 world universities in various countries, government strategies are being implemented to support universities aimed at allocating significant financial resources: for example, in England, Korea, the USA, Japan and other countries. For example, a significant part of Russian universities ranked in world rankings are winners of an open competition for the provision of state support and receive about 1 billion rubles annually to improve their positions.

## Results

The country also needs to develop a system of state support: a program to increase the competitiveness of universities in the Republic of Uzbekistan, which will help direct funds to solve the following problems:

- Creation and development of world-class universities in the republic, becoming one of the 1000 leading universities in the world;

- increasing the competitiveness and attractiveness of local education;

- Development of university-based research centers to accelerate the synchronization of science with the innovative development of the economy

## Conclusion.

The implementation of all the above measures will allow universities to carry out effective educational and research activities, flexibly respond to economic demand and be a real subject of economic relations, the driving force behind the development of regions.

Only through integrated and mutually beneficial cooperation of higher education institutions,

business structures, government bodies, public organizations is it possible to stable and progressive development of regions, building a modern economy of the country.

## REFERENCES

1. Adylova Z. D. Socio-economic development of the states of Eurasia and other foreign countries. *Problems of the Modern Economy*, N 3 (67), 2018.
2. Baidenko V. I. Some trends in the development of higher education systems in the CIS countries [Electron. resource] // *Higher education in Russia*. –№ 5, 2016 - URL: <http://cyberleninka.ru/article/n/nekotorye-tendentsii-razvitiya-sistem-vysshego-obrazovaniya-v-stranah-sng>.
3. News of the day. [Electronic resource]. URL: [www.gazeta.uz](http://www.gazeta.uz) (accessed July 20, 2018.)
4. Rakhmanbaeva R.A. Integration of education and production: new trends and prospects. - T.: Fan, 2009. -144 p.
5. Rakhmanbaeva R.A. Innovations in the education system and modern economic development of society. // "Itisodiet va talim." - Toshkent, 2019, No. 4.
6. Triple helix. Universities - enterprises - state. Innovation in action / Henry Itskowitz; trans. from English under the editorship of A.F. Uvarova. - Tomsk: Publishing House Tomsk.gos. University of Control Systems and Radioelectronics, 2010. - 238 p.
7. Decree of the President of the Republic of Uzbekistan on the approval of the concept of development of the higher education system of the Republic of Uzbekistan until 2030, dated 9.10.2019.