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JOURNAL	International Journal of Innovative Technologies in Economy
p-ISSN	2412-8368
e-ISSN	2414-1305
PUBLISHER	RS Global Sp. z O.O., Poland

ARTICLE TITLE	INNOVATION AND TECHNOLOGICAL ORIENTATION OF THE ECONOMIC EDUCATIONAL SYSTEM
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ARTICLE INFO	Konul Ibrahimova. (2020) Innovation and Technological Orientation of the Economic Educational System. International Journal of Innovative Technologies in Economy. 5(32). doi: 10.31435/rsglobal_ijite/30122020/7326
DOI	https://doi.org/10.31435/rsglobal_ijite/30122020/7326
RECEIVED	28 October 2020
ACCEPTED	09 December 2020
PUBLISHED	14 December 2020
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INNOVATION AND TECHNOLOGICAL ORIENTATION OF THE ECONOMIC EDUCATIONAL SYSTEM

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DOI: https://doi.org/10.31435/rsglobal_ijite/30122020/7326

ARTICLE INFO

Received 28 October 2020

Accepted 09 December 2020

Published 14 December 2020

KEYWORDS

Economy, education, technology, innovation.

ABSTRACT

The formation of the concept of knowledge management in the system of modern universities and educational production processes and the improvement of the quality of modern education necessitate the development of new integrated structures acting in accordance with the dynamic changes in the functioning of the economic education system and aimed at integration with other scientific structural divisions. Development in the domestic scientific and technical sphere is influenced by the limited use of innovations in the commercial activities of firms and companies, as an important component of the economic system, which requires the development of a set of measures and the creation of specialized infrastructural facilities that increase the effectiveness of the transfer of scientific research.

Citation: Konul Ibrahimova. (2020) Innovation and Technological Orientation of the Economic Educational System. *International Journal of Innovative Technologies in Economy*. 5(32). doi: 10.31435/rsglobal_ijite/30122020/7326

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Introduction. Integration approaches of scientific directions in order to obtain knowledge in the field of the formation of research institutes of complexes should be carried out on the basis of the concept of transfer of innovations as an important part of the complex of educational services and production processes. This approach makes it necessary to improve this process, determine the priorities for integrating structures into the system of economic education, and develop a method for the formation and development of the innovative infrastructure of higher educational institutions.

The departure from the paradigm of the innovation infrastructure of the scientific and technical field to the creation of infrastructure firms provides for the development of existing and emerging structures, such as small innovation firms, innovation and technology centers, innovation and technological complexes, technology parks, business incubators, etc. The peculiarity of this process in the conditions of the forming complex of knowledge management determines a special place for universities that perform the systemic function of transferring research results, which leads to the creation and design of innovative-active interfaces.

Methodology. The importance of scientific deepening of the current approaches to managing the development of innovative and educational infrastructure is manifested by the requirement to improve the organizational structures and production processes of research and development of universities, which actualizes the practical and scientific importance of research into the formation and development of innovative infrastructure in the system of economic education in universities.

It should be noted that the university economic complex, as a specially built complex institutional mechanism, is not only an integral area of educational processes, but also a system that includes science, production, and expertise. This approach increases the relevance of the innovative scientific and educational infrastructure, while the life cycle of knowledge is the main process, maximally focused between scientific and educational corporate structures.

Currently, there are three basic directions of the influence of universities on the development of innovative processes:

- the formation of new knowledge of research and development centers of universities, the development of innovative technologies on its basis;
- ensuring the transfer of innovations by innovation centers of universities;
- training of specialists for innovative activities.

It was revealed that an important element of the implementation of the integration processes of innovatively active firms, research and development firms and universities is the definition of special principles, the basic of which is the principle of integration of educational complexes and commercial entities with diversification of production processes aimed at balancing demand and supply.

A necessary area for the formation of an innovative infrastructure for scientific and educational activities is the result of the purposeful development of existing universities and the creation of innovative research universities on their basis (see Fig. 1).

An important element in the innovation subsystem of the universities of the complex is the innovation infrastructure - organizational and managerial, material and technical, informational, financial and credit bases for the development of innovative activities. The growing importance of knowledge-intensive services in the economy when applying an innovative model of economic development requires the creation of a complex of information, engineering, consulting firms and companies. The formation of innovative universities demonstrates the process interconnection and interdependence of the structure of the university complex on environmental factors.

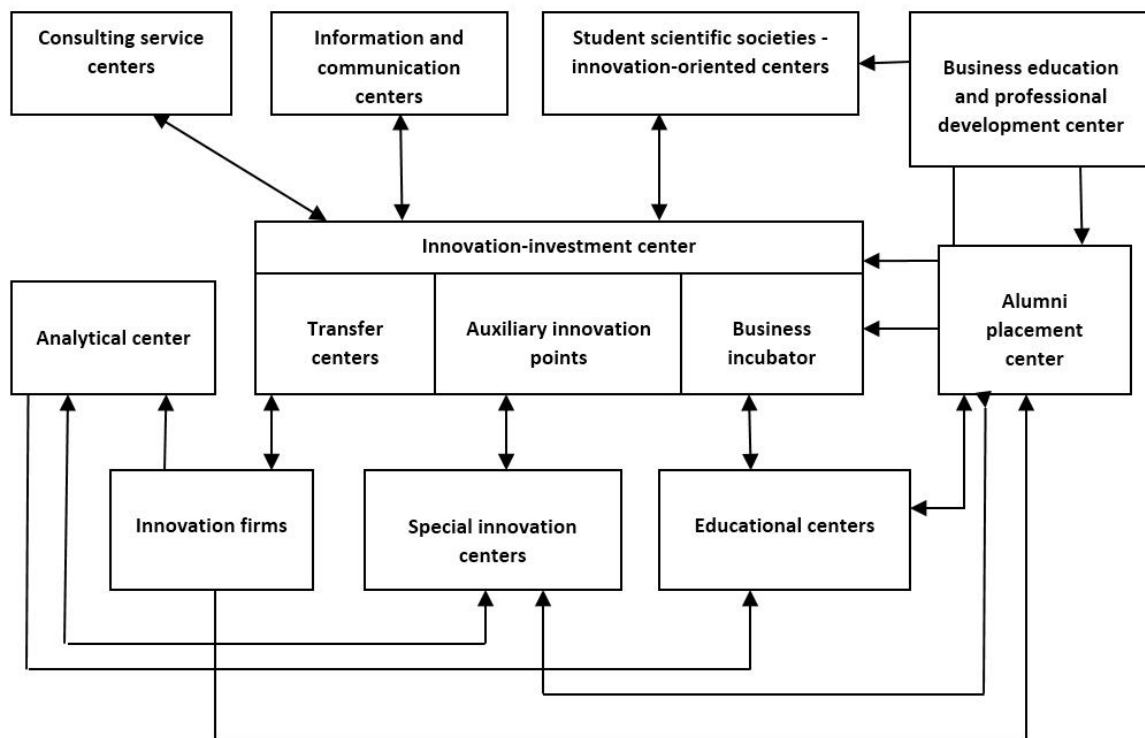


Fig 1. Block diagram of an innovative research institution

The development of the system of higher economic education directly depends on the creation of modern structures that adequately respond to changes in methods not only for the organization of the educational production process, but also for integration with firms of the scientific and technical complex. Such interaction within the framework of the innovation infrastructure is the basic trend in the development of university complexes. Models of innovative activity of educational structures are implemented in a combination of three main technologies:

- intellectual - creating a structure of the region's intellectual potential;
- management, ensuring the achievement of the goals of economic development with the use of limited resources, as well as personal money, intellectual;
- information and communication, providing the necessary ways of development, planning and modeling.

The systemic synergistic effect is achieved only as a result of the integrated development of both the specified educational and production technologies; and all subjects of the transfer of innovations aimed at using competitive advantages. In the light of this provision, a special role is played by the system of training specialists, as one of the main mechanisms for the formation and development of the institutional environment of innovation (see Fig. 2).

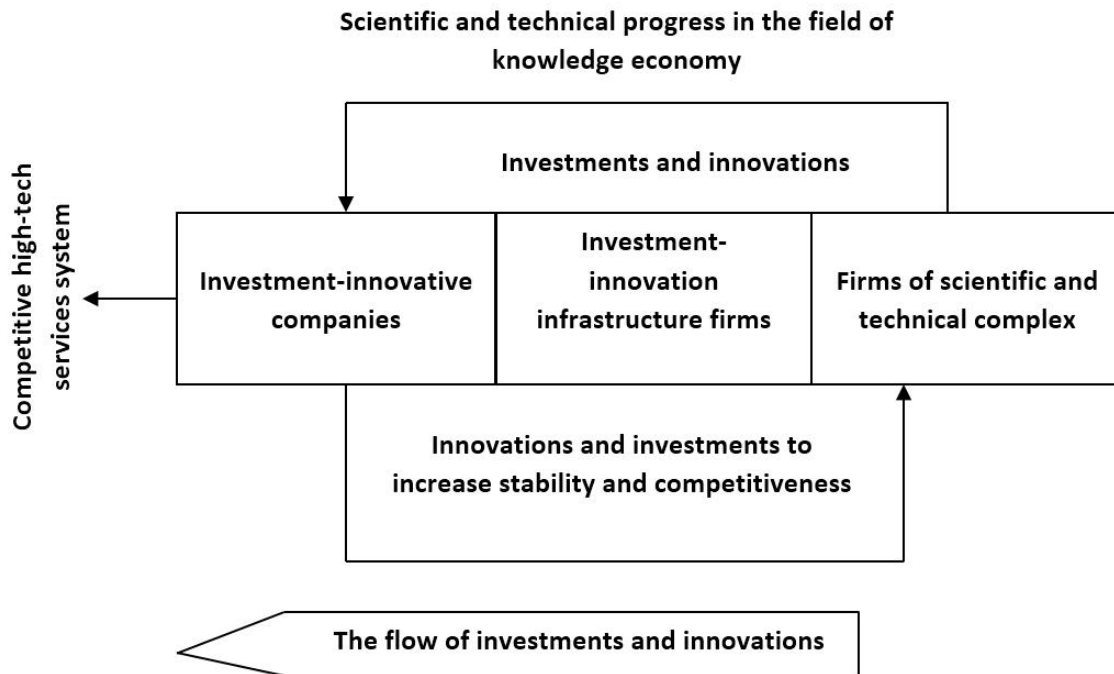


Fig 2. Block diagram of the process of transfer of investments and innovations

Diagnosis of models of integration of universities with innovative-active firms leads to the conclusion that the most effective form of this process follows the recognition of scientific-organizational-technological base of autonomous corporate structures.

Within the framework of the implementation of this model, it is possible to perform a number of system-forming functions, including the creation of professional communities, integration of educational and production processes, the formation of a single system of qualification requirements. All this serves as a basis for the synergistic effect of the integration of human, scientific, production and innovation potential.

Approach to the implementation of modern educational standards in universities, active methods of teaching have become a non-exhaustive and mandatory component of the educational process. Interactive forms of training, different from traditional methods, allow:

- to carry out all-round communication between the teacher and students;
- increased the level of student engagement in solving the problem;
- to receive a feedback from students with his individual vision of the decision;
- apply the group method of work with all participants, each of whom is actively involved in the cognitive process;
- to activate the perception of lecture and practical material;
- to form in students the corresponding professional competencies.

In modern conditions, the role of ICT with the purpose of the most active perception of information in the learning process requires the accompaniment of active forms of training with modern interactive means. This is especially relevant for economic disciplines, the content of which is subject to constant updating and includes a visual representation of the educational content.

For many economic subjects it is necessary to constantly update the educational material and visually represent the most promising developments in the economic sphere. And this, in turn, is impossible without the use of interactive tools that allow to improve the quality of perception of the material.

Of particular importance for enhancing the effect of perception is the involvement of most students in the development of such interactive tools. At the same time, the degree of activity of the

student in the work with the material and the sense of its importance in the educational process, the possibility of participation in the relevant activities and the acquisition of an individual rating.

In the economic literature, there is a lack of assessment of the effectiveness of the impact of financial policy in the field of higher education on socio-economic development and methods of their calculation. The existing methodology is based on the calculation of the criterion of economic efficiency, which takes into account the dependence between the GDP and the share of those engaged in higher education.

To calculate the efficiency criterion, you can use the following method:

a) on the basis of diagnostics of interrelationships occupied by the higher education and GDP forms a regression model:

$$\hat{y}_x = a + b \cdot x$$

b) the criterion of economic efficiency of influence on financial policy in the field of higher education on socio-economic development according to the formula:

$$S = \frac{b_{\Delta GDP} \cdot M_s}{X} \cdot 100\%$$

where $b_{\Delta BPI}$ – is a parameter of the regression model;

M_s – the number of people employed in the economy, people;

X – expenses of the consolidated budget for higher education, million manats.

The construction of the formula is based on the traditional definition of economic efficiency, where the effect is the value of the total increase in GDP due to a change in the share of employed with higher education, taking into account the number of employed in the regional economy. The resources ensuring the achievement of this result are the expenditures of the consolidated budget for higher education.

The data required for calculating efficiency and the results of the calculations are presented in Table 3.4.

Calculations show that with a decrease in the share of employed with higher education, there is a decline in the effectiveness of the influence of financial policy in the field of higher education. So, in 2020 compared to 2019, the efficiency decreased by 0.002 percentage points, and in 2020 compared to 2018 - by 0.003 percentage points. An increase in the share of employees with higher education in 2019 to 16.5% leads to an increase in efficiency to 0.026%. Thus, in the studied period 2019-2020. an increase in the share of employed with a higher education in the number of employed by 0.99 percentage points leads to a decrease in efficiency by 0.01 percentage points.

Table 1. Economic efficiency of the impact of financial policies in the field of higher education on socio-economic development

Index	2015	2016	2017	2018	2019	2020	2020 to 2015 (+, -)
Average annual number of people employed in the economy, thousand people	1382,9	1480,7	1514,0	1519,7	1502,5	1514,3	131,4
Share of employed with higher education in the total number of employed, %	15,1	15,5	15,7	16,0	16,3	16,5	1,4
Expenditures on higher education from the consolidated budget, million manat	1180,8	1453,2	1437,7	1553,9	1605,1	1754,4	573,6
Criterion of economic efficiency of the influence of financial policy in the field of higher education on GDP, %	0,035	0,030	0,032	0,029	0,028	0,026	-0,01

Foreign experience shows that higher education gives the greatest return in economic development, therefore, the formation of financial policy in the field of higher education is of

fundamental importance in modern conditions. By contributing to the improvement of the quality level of higher education and its accessibility in a given economy, it will thereby contribute to the improvement of its socio-economic indicators.

For sustainable growth of scientific, technical and economic potential of the state, it is necessary to have a high level of education of the population. Society needs to constantly take care of raising the level of education, the growth of professional training, the cultural and intellectual level of engineering and technical workers, especially new, young scientific and professional personnel. [75, p. 45-48].

In this regard, there is an urgent need for a qualitative improvement of the system of training students and scientific and technical workers.

Building a social system based on a high level of technological culture, high-tech production, digital technology, which, as a result, has a high standard of living and consumption, cannot be realized without scientific and technical workers with the following qualities: deep scientific and technical knowledge; broad intellectual capabilities; sufficient cultural level; deep professional skills and abilities.

In modern conditions, specialists are required to have a high level of competence in many related fields of knowledge, a high general cultural level, the ability to navigate correctly in the flow of information, the ability to make timely and effective responsible management and personnel decisions.

Practice has shown that the costs associated with a broad humanitarian and cultural program in the preparation of students, subsequently give them high competitiveness in the employment market, social mobility of graduates, more effective activities in the field of production management, opportunities for rapid retraining. In general, the prestige of the university is largely based on the ability of its graduates to fit into the social system and take a worthy place in life, which in turn increases the university's importance in the provision of educational services.

The goal of the educational process in an economic university is to educate a highly educated creative person with economic thinking, capable of a creative approach in solving economic problems.

To achieve this goal, it is necessary to solve the following problems: strengthening the methodological and methodological levels of the taught disciplines; focus on actual practical problems, identification of theoretical prerequisites for solving these problems; focusing the individual focus of work with students, taking into account the psycho-logical, age, intellectual characteristics of the audience; motivation of independent thinking, initiative, responsibility of students; strengthening the interest and interest of students in scientific work; activation of work on attracting students to solving specific scientific and practical problems.

Raising the methodological level of the taught economic disciplines presupposes a closer linking of the presentation of educational material with the disciplines studied subsequently. When studying economic disciplines, it is necessary to base on the knowledge and skills acquired by the student in the previous semesters of study. Disciplines such as "Introduction to Economics" and "Economics" are studied by students in junior courses, starting from the first.

The formation of professional competence begins already in the first year of study.

Orientation to urgent practical problems, identification of theoretical prerequisites for solving these problems implies mentioning urgent economic problems in the lecture course and in practical classes, proposing technical and economic measures for solving these problems or theoretical prerequisites for their solution.

Strengthening the individual focus of work with students, taking into account the psychological, age, and intellectual characteristics of the classrooms presupposes the presence of at least individual consultations with students in the teacher's schedule. Naturally, classes with junior and senior students should be carried out taking into account the fact that the motivation of the audience can differ significantly. Senior students, as a rule, have a much clearer idea of the characteristics and prospects of their future professional activities.

Conclusions. The development and encouragement of independent thinking, initiative, responsibility of students is impossible without the application of their knowledge, skills and abilities by the student in practice. That is, the implementation of coursework and diploma design. Unfortunately, in many economic universities in the country, students generally do not complete term papers and theses. But how can you form the ability to apply various methods for calculating bases and foundations in order to compile economic matrices for specific objects, when the student did not design specific objects, neither at the diploma design, nor even at the level of term paper. Replacing the course project with a set of practical lessons deprives the student of the opportunity to trace the

logic of design and understand its methodology. Without the completion of term papers and thesis qualification work, as the result of the entire educational process, it is impossible to get a full-fledged qualified economist at the exit.

The active involvement of students in solving specific scientific and practical problems is possible when the university or departments implement regional or state scientific and technical programs and the availability of funding for these programs.

Thus, the analysis of the problems shows that all the above-mentioned factors are interrelated and represent a complex system of formation of properties, qualities, motivations and values. All this orients the process of educational activity towards an individual-personal approach to the student as a subject of the educational process. A person who is in conditions of complex socio-psychological development.

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