



TURAN UNIVERSITY



GOVERNMENT INDUSTRY UNIVERSITY TECHNOLOGY

# TRIPLEHELIX

Chapter **Kazakhstan**

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*University contribution to innovation and  
entrepreneurship development*

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## UNIVERSITY OF THE FUTURE 4.0

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**Abstract.** The authors of the article present the characteristics of four generations of universities corresponding to different phases of development: from "University 1.0" to "University 4.0". "University 4.0" is a fitting description of how universities around the world should respond to the new economy and related trends, such as the development of digital technologies and radically changing labor markets. The role of information and information technology in its transfer and learning is increasing. The country is in the process of transition to a digital economy. There is a huge number of programs aimed at improving the quality of education. Under these conditions, a new model of the University – the fourth generation University – begins to form. Format 4.0 "bio-digital University" – a promising model of universities that combine physical and virtual space, developing on digital platforms.

**Keywords:** university, education, transformation of universities, university model, bio-digital university, education of the future.

As economic growth becomes more and more bounded to science-intensive innovations, universities, enterprises and the state interact more closely. And this interaction, which they implement, forms a "triple helix of innovation", described by the Professor of Newcastle University Henry Itzkowitz [1-3].

The modern competitive University has a new role – the engine of innovative economy. This is due to the current trends in the global University environment: the restructuring of universities, the development of market components in the system of higher education, the desire to take and maintain a high position in the world rankings of universities, the growing mobility of students, the development of distance education, the expansion of the penetration of higher education in society (life-long learning) [4].

Modern universities are the core of the knowledge society, the most important channel of technology transfer [5]. These are the institutions of society that play the role of innovation hubs within the national innovation system of the country.

Universities are key institutional actors in national innovation systems because of their crucial role in both the creation of discoveries and the commercialization of University-based research.

However, with the rare exception of some research universities in the United States, universities have begun to go on the path of capitalization of their knowledge, learn to commercialize the results obtained in the framework of

interaction with the business community and the state, as effectively as possible to dispose of the resulting intellectual property. Universities are currently ready to participate in the process only as developers or performers.

We define the key competitive advantages of universities as integrators within the scientific environment and the bridge from science to business.

Modern University:

- 1) global, open, dynamically developing platform;
- 2) resource base for synergy convergence of types of activities — success of project teams including researchers, managers and engineers;
- 3) the possibility of forming multidisciplinary research projects: the integration of several academic schools in solving a single problem;
- 4) the ability to create specialists in new fields of knowledge and professions that meet the needs of the business community.

As Ladyzhets N. S. and E. V. Neborsky have written in their works throughout their existence, universities have remained a mobilization resource for the development of society and culture, having an enduring value [6]. Consequently, universities, as a centuries-old civilizational project, having a certain construct, acting as an axiological core, at the same time are subject to some degree of transformation.

This transformation is due to several factors:

The first factor – the leading universities are looking for alternative sources of funding, as the increased cost of research exceeds the amount of funds allocated by the state. As a result, leading universities around the world are looking for opportunities to collaborate with high-tech companies. This process is also facilitated by the counter-tendency of the latter to reduce the volume of independent fundamental research in favor of cooperation with high-status universities on fundamental research projects, which they consider vital for their future competitiveness. As a result, the once divided worlds of scientific and applied research are becoming increasingly interconnected.

The second factor is globalization. Previously, most universities were de facto regional monopolies in terms of attracting students. Due to the expansion of educational opportunities in other countries, universities are now increasingly competing for the best students. And the object of competition are teachers, and contracts with corporations to perform research work, which today can win universities from any country in the world. As a result of this competition on three fronts (for the best students and teachers, and for the most attractive contracts), the gap between the leading universities and the universities of the "second tier" is increasing. The winners in this race are those universities that manage to become the core of the international know-how hub, that is, a platform for the concentration of international best practices, where academic institutions interact with organizations that conduct applied research, in other words – the place in

which all those involved in a particular field of knowledge seek to visit: students, University teachers, corporations.

Universities Second Generation (2EU) are not aiming at the practical implementation of know-how obtained through research. The focus was on "pure science". The third generation universities had a priority in the creation of knowledge and the main active implementation and commercialization. Such activities were seen as their third task, no less important than the task of education and research. Taking advantage of the know-how involves the active participation of the University in stimulating entrepreneurs, technostarters (technostarters) – students, graduate students and teachers who create their own technology companies. Landmarks here are such leading American universities as the Massachusetts Institute of technology, Stanford and Harvard universities, as well as European role models – Cambridge University and Leuven Catholic University.

The third factor – the development of the commercial component of the universities' work – is due to the change in the state policy in the field of higher education in many countries of the world. In the era of second-generation universities, governments were quite happy with universities engaged in research and implementing educational programs based on them. Today, universities are considered by them as incubators of new types of commercial activities related to science and advanced technologies and carried out on the basis of pre-existing companies or startups. Governments therefore require universities to play an active role in benefiting from the new knowledge they create and to provide funding to support the activities. Thus, in the knowledge economy, universities have become understood as instruments of economic growth.

The fourth factor has a very different nature and is associated with changes in the forms of organization of science. Research in the era of the second generation universities was mainly monodisciplinary in nature. Currently, the vast majority of scientists work in interdisciplinary teams focusing on specific areas of research. Often the creation and implementation of master's programs are closely related to the work of such teams. In the era of monodisciplinary research the ideal form of organization was established. For interdisciplinary teams division into faculties often becomes an obstacle, which necessitates the search for new organizational forms. These changes also affect the management of the modern University, which should create new positions to manage the processes of benefiting from know-how, as well as adapt to the need to be effective in the face of the growing scale and complexity of the tasks facing the University.

The fifth driving force behind the changes was the response to the massive increase in the number of students, which began in the 1960s and led to an increase in public spending and increased state control over the results of their use. Universities have become bureaucratic organizations, which, in turn, has necessitated the search for ways to ensure the effectiveness of management in the new environment.

We see that 3.0 universities are discussed very rapidly, but there is a new trend - 4.0 University. Let's look at how everything developed in order.

Historically, universities (the so-called 1.0 universities) were engaged in the translation of knowledge, training and played the role of a social Elevator. The first serious incentive to expand the functionality of universities was the order from the state and big business. To solve the problems of the state, the technological business turned to universities as centers for creating new knowledge. Universities began to conduct research, generate new ideas, and gradually the connection between business and educational institutions was so strong that it became difficult to distinguish what part of the activity takes place at the University, and what – in business. This was the University 2.0. The next major innovation of the University is related to the development of entrepreneurial competencies within the University. If in the early 70's entrepreneurial courses existed in only sixteen universities and colleges in the United States, by 1985 there were 85, in 1995 — almost 400, in 2000 — 1200 and, finally, five years later, in 2005 — 1800 courses. Universities 3.0 is a place where teachers are not just carriers of knowledge, but also real entrepreneurs who commercialize the development of the University through the ecosystem created here to support startups. On the one hand, it creates an additional source of income for the University, on the other — increases the number of competencies that can be transferred to students (Figure 1).

|  |                  |  |
|--|------------------|--|
| Reproduction of the elite<br>Training<br>Corporation of students and teachers<br>Scholastic system of teaching<br>Monologic<br><br><b>The compliance culture of the Corporation (including professional)</b>   |                  | Innovation and technology development<br>Education, science, business<br>A bunch of University, state and production<br>Training through core competencies<br>Group (network) interaction<br><br><b>Compliance with expected competencies</b>  |
|  | <b>Model 1.0</b> | <b>Model 3.0</b>   |
| The creation of a civil society; the national idea (the study itself)<br>Training, research<br>A bunch of University and state<br>Learning through research<br>Dialogical or "Socratic" communication<br><br><b>Knowledge of the classics in the original and the ability to hypothetical-deductive thinking</b> | <b>Model 2.0</b> | <b>Model 4.0</b>   |
|  |                  | The development of the noosphere and ecosystem companies<br>Creativity, ecosystem, business<br>Physical and virtual (cloud) the existence of a network organization<br>Metaindividual<br>Self-constrained<br><br><b>Creation of a viable product, contribution to the development of the society's ecosystem</b> |

Figure 1 - Comparison of conceptual models of universities of 1.0, 2.0, 3.0, 4.0 format.

Entrepreneurial University or the University of the future is a unique platform where business, state and society are United, where all participants of the educational process are involved in entrepreneurial activity: students, teachers, and administrative staff. It is not necessary to talk about technological startups, very often social innovations are born at the University. It is from these positions that the University 4.0 is the point of growth and development of entire territories and individual industries. Many large technology companies came out of the University system and had names that were associated with universities. For example, in the name of the company SunMicrosystems, widely known in 1980-1990-ies, Sun – is not the sun, and a reference to Stanford University Networks (Stanford University Networks).

The formation of the "bio-digital University" is a prospect due to the development of platforms and analytical applications and the new industrial revolution. Changing the ecosystem of society entails a change in the social order. Already today it is possible to observe the development of educational hubs, network communities and a number of other new forms of organization of universities [7], receive rapid development of open educational resources with variable combinations of training [8].

Breakthrough technologies will require universities to restructure the structure and essence of education. The target setting, apparently, will be ways to "reveal" human talents and "firmware" his life scenarios, through the synthesis of biology and "smart technologies", as well as the development of the noosphere. The assessment of current processes is absurd only taking into account industrial indicators and the academic model of intelligence. It will probably be replaced by a model of multiple intelligence, when the evaluation criteria are specified in the given conditions, adapting to the peculiarities of human thinking, and not Vice versa. It is obvious that the academic model of intelligence, when different ways of working with information are evaluated unilaterally (in fact, the evaluation of only one of the many characteristics of the tool), has exhausted itself, because it limits the hidden possibilities of human intelligence.

Digital applications (scripts) are fully adapted to human needs and will finally replace classical educational programs and linear method of information transmission. Students will be able to study anywhere and at any time [9].

Finally, the disciplinary core will be destroyed, which will be replaced by thematic education, when the phenomenon is studied, which will strengthen transdisciplinarity in science and education [10].

The University will cease to exist only two-dimensional in physical space, expanding its presence in virtual reality through cloud technologies, including in the format of a network partnership with distributed management. The key categories will be: "Creativity" (a person acting as a Creator, Creator and Creator), "Ecosystem" (development, and sometimes the creation of which will be one of the key educational goals) and "Business" (as a regulator of inter-institutional

relations). Meta-individuality will be fixed in the educational process, and self-construction through educational design tools and intelligent machines will become a form of learning.

The formal system of evaluation will cease to exist for meaninglessness (as a relic of Church control, then the state), and the evaluation of the effectiveness of the development of educational programs regardless of the phenomenon under study will be a viable product designed by the student, or a relevant contribution to the development of the local ecosystem of society. It is the solution of specific global and local problems (resources, hunger, ecology, epidemics, viruses, etc.) that will strengthen the need for the involvement of societies in the sphere of higher education and University science (Figure 2).

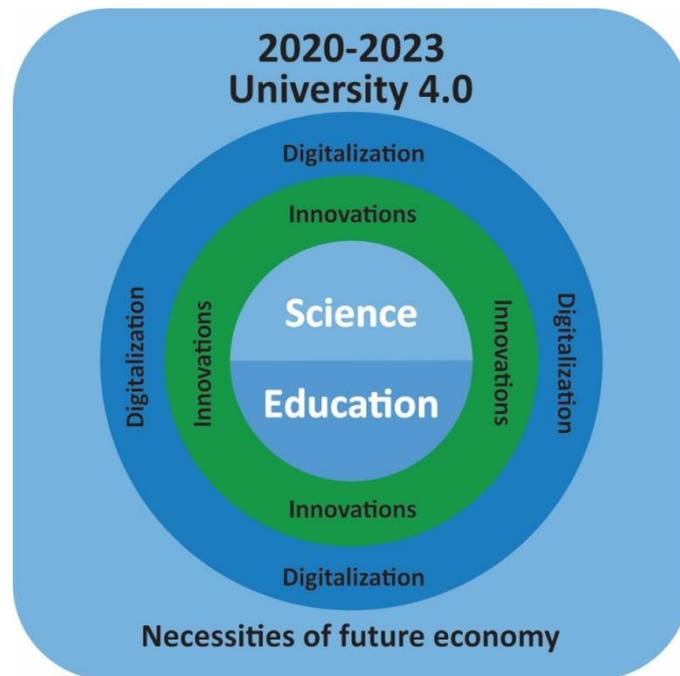


Figure 2 - Transformation of the University model.

Entrepreneurial universities around the world are making a major contribution to the economy.

First, through the mass training of people ready for their own business start-up, as well as to work in conditions of risk and uncertainty in small, especially technological, business.

The second obvious economic effect of universities 4.0 is to increase the share of innovative small business.

The third expected economic effect is a sharp increase in synergy from research conducted at universities, the emergence of a really powerful flow of funds from the implementation of patents, licenses, related services, which can seriously add

financial opportunities for re-equipment of Russian leading universities, for their entry into the frontier of research in the most promising fields of knowledge.

Another potential positive effect for the economy is corporate research programs in which entrepreneurial universities integrate with business and joint laboratories. This seriously increases the speed of commercialization of new ideas.

In the current situation, there are obvious trends in the development of universities and higher education, including the change in the status of universities by strengthening the scientific activities of risks and experimentation, the transition from competition to partnership, access to large databases (Big Data), the transition to multi-format open educational resources (Open Online Resources), a combination of new and traditional formats of training, redevelopment of educational facilities in the format of open spaces (Open Space). Technologies such as training using mobile devices (Bring Your Own Devices), the transition to "inverted classes" (Flipped Classroom), the creation of "space designer" (Makerspaces) – high-tech platforms using 3-D printers, the creation of "wearable" technologies like Google Glass, the development of adaptive learning through the introduction of digital platforms and the spread of the Internet of things [11] will become widespread.

Changes in the identity of the University are irreversible. The trend of reconstructing the format of its conceptual model is obvious. The coming bio-digital era will require all participants to be integrated (universities, local communities, States, international organizations, transnational companies), as the degree of interdependence of actors without reference to the educational area and the ultimate learning goals increases.

Undoubtedly, Universities will be transformed, but for this it is necessary not only to look at what is there in the West, but also to create an institutional University environment that encourages the initiative of teachers.

Each University should identify the promising direction that will be able to pull it out. There must be an understanding: the future comes so quickly that if we do not transform and change, then for some it will not come.

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THE MODEL OF TRAINING SPECIALISTS  
IN TELECOMMUNICATION INDUSTRY  
WITHIN THE FRAMEWORK OF PUBLIC-PRIVATE PARTNERSHIP  
AND TRIPLE HELIX CONCEPTS

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**Abstract.** The concept of the Triple Helix is – the Anglo-Dutch model of interaction between universities, business and government, the basis of this development is, according to the concept, a university that creates around itself a belt of innovative enterprises. The relationship between the state, business and the university in the innovation sphere on the basis of public-private partnership is one of the important conditions for the formation of an effective economic policy of the region, increasing its competitiveness. The implementation of the proposed training model for public-private partnerships and the concept of the triple helix theory will allow faster and more flexible adaptation of the training system for competitive specialists to changes in the labor market not only for enterprises and organizations of the real economy in the local area of the university, but also for meet the need for highly qualified personnel of foreign countries.

**Keywords:** public-private partnership, universities, triple helix, new technologies, telecommunications

At present, the relationship between the state, business and university (the concept of a triple helix, Triple Helix) in the innovation sphere based on public-private partnership is one of the important conditions for the formation of an effective economic policy of the country, increasing its competitiveness [1]. Public-private partnership is an institutional and organizational alliance of state and business, which implies the unification of material and non-material resources of both parties on a mutually beneficial contractual basis in order to implement socially significant projects and programs in a wide range of fields of activity: from basic industries and research and development design work prior to the provision of public services [1].

In such a system of relations, the university plays a key role:

- as the main supplier of competitive specialists for organizations of the real sector of the economy;
- as the owner of the results of intellectual property in the field of innovation.

At the same time, in the model of public-private partnership, the university's task is to develop and transfer scientific and technical developments to business structures, the business's task is materialization and effective use of university

developments, and the state's mission is to create favorable conditions for successful marketing of competitive products.

The logic of reliance on universities is understandable, since it is only through the efforts of young specialists that an innovative economy can be built. The triple helix model makes it possible not only to check the reliability of local mechanisms of relations between universities, government and business, but also to adjust them in order to form an appropriate strategy for success [2]. The key points of contact between the innovation infrastructure of the university and the republican innovation system based on the concept of the triple helix of innovations include the following points:

- the specifics of business and university interaction is to stimulate the entire educational system both for teaching and research, and for fruitful participation in work on targeted orders of commercial firms and providing support for their daily work;

- partnership of business structures and institutions of higher education is characterized by the transfer of knowledge and technology through the exchange of student and teaching staff between universities and enterprises with the serious involvement of business in the university administration system;

- prospects for cooperation between universities and business depend on the ability of all participants in the interaction to clearly define the "rules of the game" and establish "relationships based on mutual influence and training," in which both interested parties quickly adapt to the needs and specifics of their partners.

Thus, the "triple helix" model assumes that it is universities that become centers that generate technology and new forms of entrepreneurship, reserving, of course, scientific research, and also shows that certain institutions are included in the interaction at each stage of creating an innovative product.

The theory of Triple Helix was created in England and Holland at the beginning of the XXI century by Henry Etzkowitz, a professor at the University of Newcastle, and a Loet Leydesdorff professor at the University of Amsterdam. This theory symbolizes the union between government, business and university, which are key elements of the innovation system of our country.

At the same time, science and business penetrate each other with the support of a third force - the authorities. As for universities, they create around themselves a belt of innovative enterprises.

This article [3] describes that universities become not just a center of science, but research universities and at the same time they should be entrepreneurial. This is the vector of development that the "Turan" University is focused on.

At the same time, the article emphasizes that the concept of an entrepreneurial university is very promising, this is the present and the future of higher education. The presented triple helix innovation model includes three main elements (Figure 1):

- in a society based on scientific knowledge is characterized by the strengthening of the role of universities in cooperation with industry and government;

- three institutes (University, Business, Power) seek cooperation. At the same time, the innovative component comes from this interaction, and not at the initiative of the state;

- in addition to the traditional functions, each of the three institutions "partially assumes the role of the other." Institutions capable of performing non-traditional functions are considered the most important source of innovation.

The mechanism for implementing this concept can be innovation-educational clusters, which represent a systemic association of various organizations and allow you to use the advantages within cluster interaction in order to more quickly and efficiently spread new knowledge that stimulates innovation to increase the competitiveness of the territory, which corresponds to the theory of innovation space.

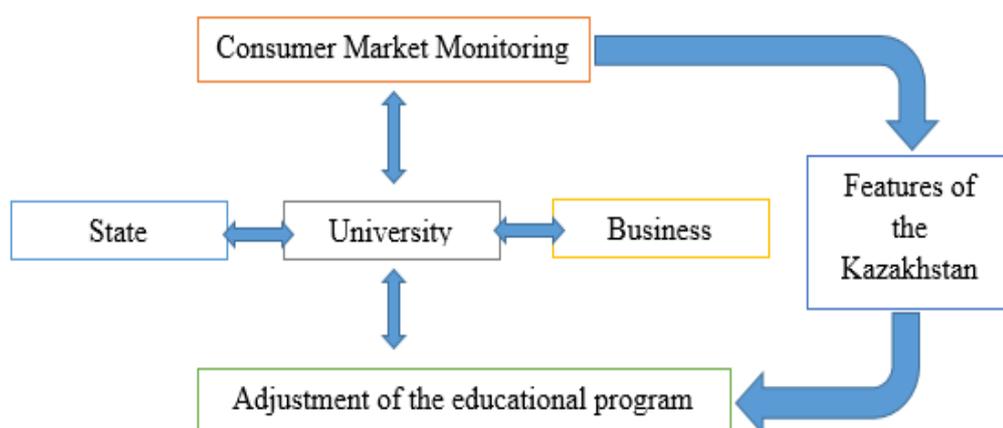


Figure 1 – The conceptual model of analysis and monitoring of the consumer market in qualified personnel

In such a conceptual formulation of the issue, the organizational-structural scheme for training on the basis of a public-private partnership of the triad of the main participants in the innovation process (the triple helix concept) provides for the active participation in the educational process of all participants in the innovation infrastructure, including the executive bodies of state power and the business community. Thus, on the basis of an optimal combination of scientific, educational and production processes, it is possible to prepare a comprehensively developed specialist who meets the requirements of modernity.

The main advantage of the presented model is the possibility of using economic and mathematical methods of numerical calculation for monitoring and analyzing the consumer market, adjusting educational programs on the basis of relevant statistical and other indicators of the need for specialists by organizations

of the real sector of the economy. The methodology and tools of numerical calculations will be based on the model of the volume space of innovation [4].

In contrast to the model of public-private partnership, the new concept of managing innovation processes is of interest as the current form of knowledge production based on the interaction of the system - science (education) - business - power.

Therefore, the role of universities in the Triple Helix model is indisputable, since new knowledge and technologies become the key factor of our country's competitiveness [5].

It is the university teachers who actively interact with the students who conduct certain research and development become the most important resource, since the generation of knowledge contributes to the solution of the Triple Helix concept.

In order to solve the mission of the university "Turan" in accordance with this concept, the department "Radio Engineering, Electronics and Telecommunications (RET)" conducted some work:

- the number of teachers of the department, possessing the main indicator of scientific research with a Hirsch index of 1-2 - 6;
- the number of articles published in the journals of Thomson Reuters - 2;
- the number of articles published in the magazines Scopus - 13;
- the number of articles published in journals RISC - 4;
- the number of patents obtained by teachers of the department - 4;
- received a diploma from the FSAEI of HE "Kazan (Volga region) Federal University" from 27.02.2019. winners of the first place for winning the International Competition "Worldview of Science - 2019" in the nomination "Scientific Approach of the Year" with the competitive work "Study of the time series for stationarity", prepared by students of the department Zhanalinova A., Naushatova A. of the RET-16-1 group [6];
- in the process of the research conducted by teachers of the RET department together with a graduate of the RET-16-1u group Vasilyev I. materials were prepared. Currently, there is an interaction with the patent office of the city of Almaty on the formation of a patent with the name "Method for short-term forecasting of the intensity of packets arriving at the router based on the Fibonacci series".

#### Findings

The implementation of the proposed model of training in the framework of PPP and the concept of the triple helix theory will allow for faster and more flexible adaptation of the training of competitive specialists to changes in the labor market not only for enterprises and organizations of the real economy in the local area of the university, but also oriented to meet highly skilled personnel of foreign countries.

The direction of further research is connected with carrying out numerical calculations to assess the need for personnel in the sectors of the real sector of the economy in the framework of the triple helix model.

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## INVESTIGATING THE PROBLEMS OF INFORMATION SUPPORT AT DIFFERENT STAGES OF INNOVATIONS LIFE CYCLE<sup>1</sup>

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**Abstract.** There has been developed a model of the life cycle of innovations in relation to external information resources necessary for the successful execution of work at its stages, and the peculiarities of information support of innovation activities at the stages of the life cycle of innovations are shown in the work. To study the problems of information support of innovation activities in Kazakhstan, according to the proposed model, a multidimensional questionnaire survey of innovation and academic organizations and experts was conducted. The results of statistical analysis confirm the working hypothesis of the feasibility and importance of unified sources of data on the latest research and development for domestic organizations and industries.

**Keywords:** innovative activity of the enterprise, the life cycle of innovation, information technology innovation, innovation activity.

**Introduction.** On January 31, 2017, the President of the Republic of Kazakhstan, N. Nazarbayev, dedicated his message to the people of Kazakhstan [1] to the third state modernization and global competitiveness. The President defined the goal according to which by 2050 Kazakhstan should be among the 30 developed countries of the world. The goal implies the further development of the innovation economy as a priority direction of Kazakhstan's industrial policy, and the strengthening of the innovation support infrastructure for the development of new industries, taking into account current trends in the digitization of innovation development.

The development of digital technologies is one of the ways to diversify the national economy and reorient from raw materials to the industrial services model is. The State Program "Digital Kazakhstan" [2] was approved on December 12, 2017 by the Decree of the Government of the Republic of Kazakhstan No. 827.

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<sup>1</sup>The work was supported by the grant of the Ministry of Education and Science of the Republic of Kazakhstan AP05134019 "Development of scientific and methodological foundations and applied aspects of building a distributed information support system for innovation activities, taking into account the specific features of each of the stages of the innovation life cycle"

In accordance with this program, it is necessary to take measures to improve the quality of the existing infrastructure of innovation development, and the key direction in the development of the ICT industry is to ensure the growth of the share of information technology services. It is planned that the program activities will be implemented in five areas, one of which is “Creating an Innovation Ecosystem”. Thus, innovation and digital development are considered in organic unity, which creates favorable prerequisites for the implementation of projects aimed at providing information support to innovation activities.

The following subheadings of the Global Innovation Index published annually by the World Intellectual Property Organization clearly demonstrate the importance of innovation and the attention that should be paid to various aspects of innovation activity:

- The Human Factor in Innovation [3];
- Effective Innovation Policies for Development [4];
- Winning with Global Innovation [5];
- Innovation Feeding the World [6].

The processes of information support and of the provision of information support for the innovation activity of an enterprise include several points, such as:

- creating and updating of data banks, scientific and technical results and potential capabilities, as well as scientific and technical programs and projects related to promising areas;
- searching and selecting innovative projects, considering of proposals for the production of high-tech products for individuals and legal entities who are interested in their financing;
- implementing the access to databases and remote information centers, including foreign ones, using modern telecommunication systems;
- providing the access to information databases, as well as to information resources of the Internet in the innovation sphere of activity for interested organizations and individuals.

The use of modern information technologies in the interests of successful innovation provides almost instantaneous connection to any electronic information files (such as databases, electronic reference books and encyclopedias, various operational reports, analytical reviews, legislative and regulatory acts, etc.) coming from international, regional and national information systems.

#### 1. Model of the life cycle of innovation

Based on the essence of innovation presented earlier and detailing the content, focus, and priorities of the work, we present the model of the life cycle of innovation in relation to external information resources necessary for the successful implementation of work at the following stages:

- 1) generating and filtering of ideas;
- 2) conducting research;
- 3) R & D and pilot production;

- 4) industrial production;
- 5) market entry, growth, saturation, decline.

This model of information support for the life cycle of innovation involves the integrated use of documentary and factual sources (to which the authors of this work and several other works have rightly drawn attention) reflecting the following main thematic and specific aspects:

- information on the markets;
- information about the programs and about the areas of research on the practical use of the results of fundamental researches;
- marketing information;
- information on potential investors and grant competitions;
- scientific, technical and patent information, research reports and dissertations;
- materials of scientific conferences;
- forecast and analytical information;
- conjuncture-commercial information;
- legal and regulatory acts, standards and reference books;
- economic information (including management), etc.

It should be noticed that the stages of generating an innovation idea and the initiation of a business idea are characterized by: high uncertainty of goals and objectives, technological, semantic and organizational diversity of the format, and in some cases the territorial dispersion of the key participants and innovation resources involved.

Consequently, information and analytical support for innovation is in demand not only, as is customary, for the marketing, production, sales and after-sales support stages, but also for the initial stages (generation / initiation, R & D) of their life cycle. Here, information and analytical support for the initial stages of life cycle innovation requires a systematic approach to the execution of the business process of creating an innovative product, taking into account the prospects for transfer, commercialization, replication and expansion of the market for the innovation [7].

1. At the stage of generating an innovative idea and initiating a business idea, the external information is fundamental, containing analytical and marketing research results, the source of which, as a rule, is the external environment of a high-tech enterprise. It should be emphasized that today most of the new innovative solutions are becoming available to specialists through the integration of autonomous information systems. In this connection, there is currently a tendency to integrate fragmented information resources and create common information spaces at the enterprise level as well as at the mesa, macro, and mega level.

A common information space is a set of databases and data banks, technologies of their management and utilization, information and telecommunication systems

and networks operating on the basis of common principles and according to general rules that ensure information interaction between organizations and citizens, as well as meeting their information needs, grouping information resources into clusters of information, data, knowledge and competencies.

2. In turn, at the stage of fundamental research, the purpose of which is to uncover new connections between phenomena in a particular subject area, knowledge of patterns in natural and artificial processes in terms of their targeted use, it is necessary to extract information from the databases on this subject and to systematize that information. For this stage of the life cycle, the databases should contain:

- data on the results of basic research in this subject area in terms of new knowledge, which, in the future, can be the basis for applied research;
- data on useful ideas, models obtained as a result of fundamental research in the subject area and related areas.

For the applied research stage, the use of new knowledge is planned, aimed at achieving practice-oriented goals and solving specific tasks, including the creation of models, the production of prototypes, pilot samples of new technology and promising new technologies. At this stage, special calculations are carried out in order to analyze, evaluate, and possibly correct the research and, if necessary, eliminate hopeless ideas. The result is - the development of technical specifications for the design of the desired natural object or sample of the product, technological recommendations, methods.

The applied research stage requires the extraction of information from information resources (for example, databases):

- on the results of exploratory and applied research (publications) related to a specific subject area in order to substantiate the generated ideas, business models, etc. .;
- on practices for transforming the results of applied research into new samples of commercial products or their prototypes, models, experimental samples (express information, prospectuses, etc.);
- on the procedures and results of the protection of research and development in related areas (regulatory documents, guidelines for the preparation of applications for intellectual property, patents, certificates of the computer programs, etc.).

3. Since the purpose of the development work is the development of technical documentation (technical, draft, work project, technological maps, etc.), as well as preliminary, working and serial testing of new product samples to confirm their reliability, efficiency, production and commercial use, then, to effectively ensure this stage, it is necessary to extract information from information resources (for example, databases). To extract such information as:

- on the preparation and entry into the market of new engineering solutions (constructive, technological, etc.), technologies, products (for example, IT solutions), services;
- about engineering data management systems;
- about the level of security of similar engineering solutions and their respective owners;
- on the already used circuit layout and other design solutions;
- about the component parts (parts, assemblies, components), the technologies of their production, assembly, installation, experiments, tests, materials and other elements, the conditions of their delivery used in the creation and utilization of the developed products, technologies, services, etc.
- about possible contractors and subcontractors, their competencies both at the R & D stage and at the subsequent stages of creating an innovative solution;
- about potential sources of financing (budgetary resources of various levels, grants, own funds of the enterprise, financial resources of the participants of the innovators team, credit resources, ventures, business angels, etc.) and the conditions for their provision at various stages of development work.

4. A special place is occupied by information support at the stage of replication of innovation as an innovative product within the framework of industrial continuous production (single, serial, mass). Here industrial production is understood as a process during which raw materials, basic materials or semi-finished products are transformed using industrial equipment into an innovative product that is in demand in the market.

At this stage, information is needed on the analysis and assessment of market prospects for a new innovative solution, its compliance with current domestic and international standards, financial capabilities, information on design and development practices for technological, organizational and managerial processes, preparation of all components of a high-tech product.

5. The key condition for the effectiveness of information support for managing innovative business processes of an enterprise (market entry, growth, saturation, recession) is exceeding the speed of generalization and systematization of information over the speed of innovation life cycle implementation, which is achieved not so much by improving the mechanisms and processes of information exchange between subjects innovation processes, but by methods of converting information into knowledge or the intellectual capital of an innovative enterprise.

As it was mentioned, each stage of life cycle innovation requires a specific set of information: scientific and technical (documents and reporting of other search processes in a given subject or related subject areas), patent, commercial, marketing, statistical, demographic, environmental, legal, information about competitors, information on potential consumers of innovations.

2. Conducting a multi-aspect questionnaire survey of innovation and academic organizations, as well as interviewing experts in the Republic of Kazakhstan

Achieving the goal of this stage of the project involves the collection and statistical processing of data on the work of innovative enterprises using the developed methodology for forming a ranked register of problems of information support for innovations in relation to individual stages of their life cycle. When organizing any statistical observation, it is necessary to solve a number of issues grouped into two groups: program-methodical and organizational observation issues.

Program and methodological issues.

1) The purpose of the observation is the result of the study for which data is being collected.

2) The object of study - the statistical population under study.

3) The subject of the study is the unit of the statistical population under study.

4) Observation program - a list of questions on which information will be collected, a questionnaire form.

By studying the Internet resources, we identified 138 enterprises and organizations that are leading innovative activities in various sectors of the economy of the Republic of Kazakhstan. Some of them are included in the association of the FEZ PIT "Alatau", for which the survey was conducted separately.

Based on the analysis of the above statistical forms of Kazakhstan and Russia, a multidimensional questionnaire was developed for the survey of innovative enterprises (Appendix D). This questionnaire includes 51 questions to identify the research specifics of the information needs of innovators at each stage of the innovation life cycle from the generation of ideas to the withdrawal of a product from the market.

Organizational matters.

1) The subject of observation - the organization that conducts the study.

2) Place of observation.

3) The observation period is the period during which information is received.

4) The form of observation.

5) Type of observation.

6) The method of observation.

In accordance with the specified list, the Institute of Information and Computational Technologies of the Ministry of Education and Science of the Republic of Kazakhstan, which is the project implementing organization, became the subject of observation. The location of observation was the deployment of 138 enterprises and organizations, leading innovative activities in various sectors of the economy of the Republic of Kazakhstan [8].

The observation was carried out in the period from January to March 2018 in accordance with the calendar schedule of the project. Interviewing experts was

conducted in written (full-time) and electronic forms (contactless), the method of observation was questioning (survey).

3. Statistical processing of the information was conducted to identify the most significant problems of information support.

In Kazakhstan, 36% of innovative enterprises that took part in the survey are small enterprises (up to 100 people) and 30% are universities. In addition to small enterprises, large enterprises, research institutes and consulting centers took an active part in the survey.

The survey showed that the largest number of organizations provide innovative services (57%), the second place by the number of answers is the production of innovative products (20%), 11% are engaged in bringing products to a commercial sample, 7% are prototyping.

Types of work carried out by innovative organizations, is illustrated in Figure 3.

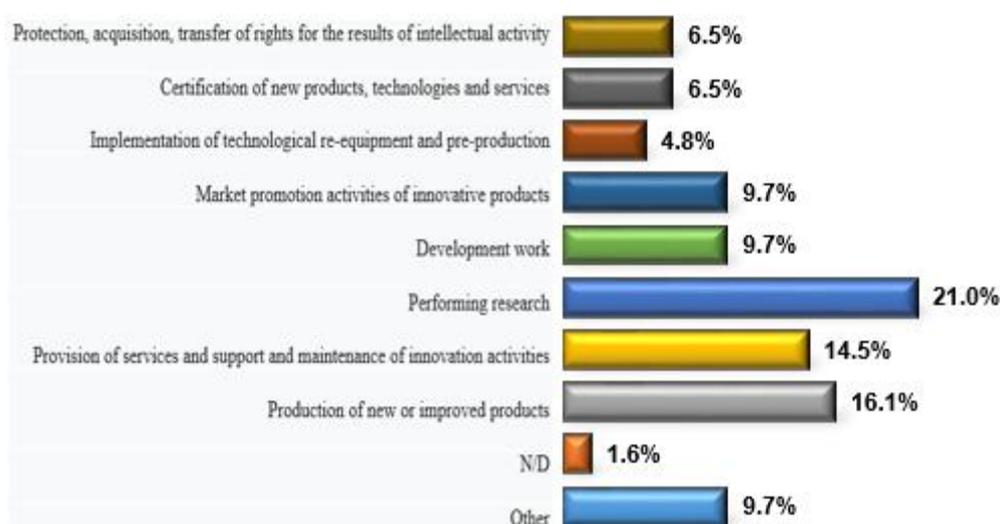


Figure 3 - Types of work performed by innovative organizations

Equally important for the analysis of innovation in both countries is information about sources of funding. In Kazakhstan, the funding sources are: own funds of organizations (41%), budgets of various levels of the budget system of the Republic of Kazakhstan (28%), and funds raised from extra budgetary sources (19%). The results of the survey showed that a shortage of information arises primarily at the stage of launching a product to the market, exploring the idea of an innovative product and creating a prototype product (Figure 4).

According to the data obtained, the lack of information in Kazakhstan is felt in such activities as obtaining information about various methods, models, technologies; identifying existing points of view on the problem and gathering facts (Figure 5).

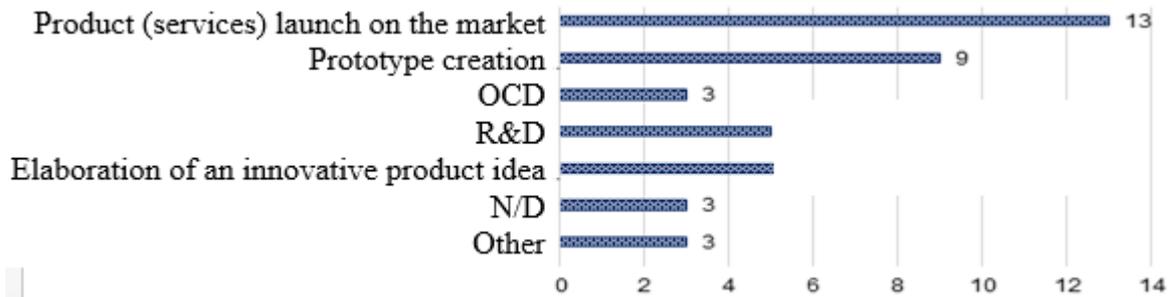


Figure 4 - Answer to the question “At what stage do you feel a lack of information?”

At the same time, organizations mostly suffer from a lack of marketing information, information about new technologies and new engineering solutions (Figure 6).

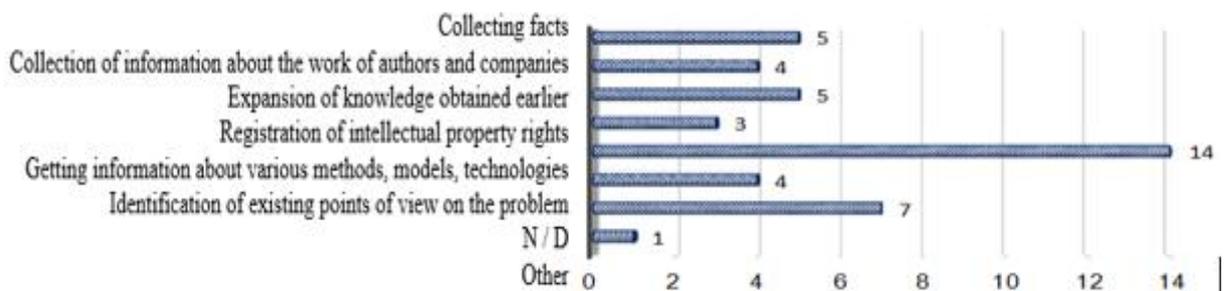


Figure 5 - The result of answering the question “In which activities do you think there is a lack of information?”

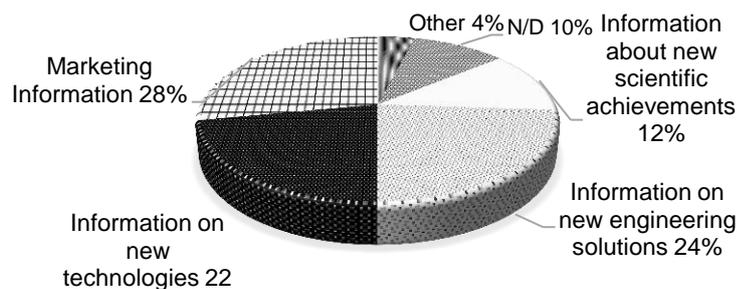


Figure 6 - Answer to the question “What kind of information deficiency do you (employees of your organization) are experiencing?”

It should be particularly noted that 82% of respondents consider informational support of professional activities as very important (Figure 7).

About a third (32%) of surveyed organizations that indicated their own funds (or only their own funds) as a source of financing for innovation activities are

ready to pledge to the budget expenditures for information support for work. This demonstrates the viability of this project at the end of its funding.

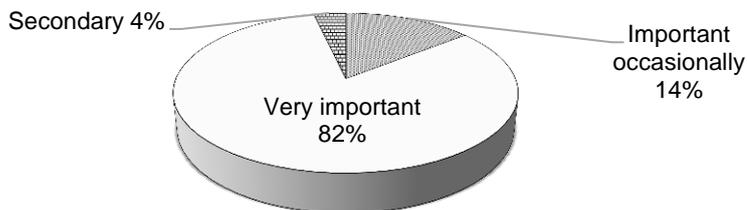


Figure 7 - The answer to the question “How important is information support in your professional activity?”

The answers received in the questionnaires were processed in the analytical software of the Google Form service and IBM SPSS statistics 22 using descriptive (Figure 8), regression (Figure 9-10), and visual analysis models (Figure 11).

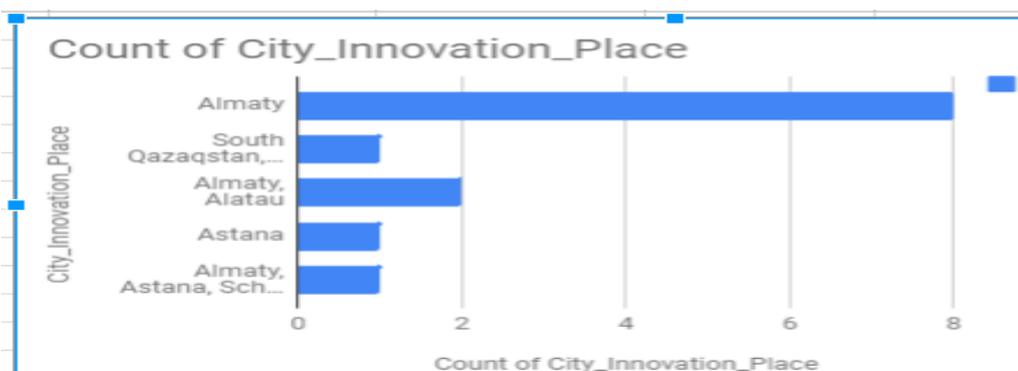


Figure 8 – Frequency of geographical distribution of organizations

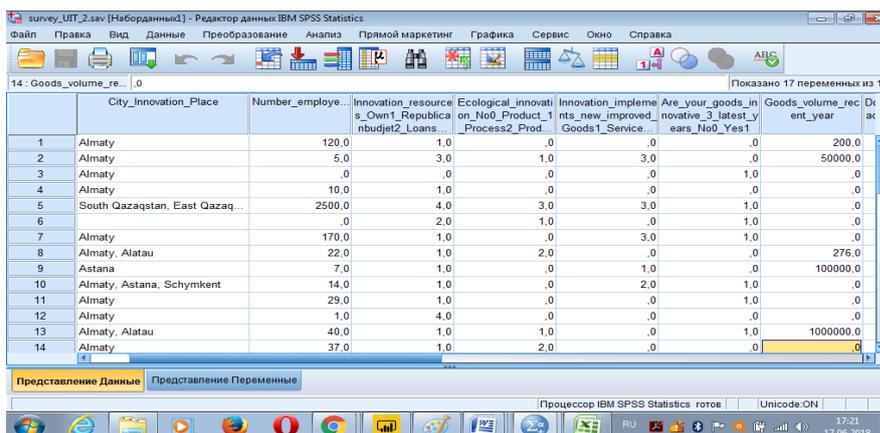


Figure 9 - Survey data for processing in IBM SPSS’22 statistics software

The visualization of the geography of the application clearly demonstrates, of course, a higher involvement in innovation in the more densely populated areas of the Republic of Kazakhstan.

**Коэффициенты<sup>а</sup>**

| Модель |   | Нестандартизованные коэффициенты |                    | Стандартизованные коэффициенты | t     | Знач. |
|--------|---|----------------------------------|--------------------|--------------------------------|-------|-------|
|        |   | B                                | Стандартная Ошибка | Бета                           |       |       |
| 1      | (Константа)   | -1,457                           | 2,138              |                                | -,682 | ,511  |
|        | Interested_receiving_new_info_regularly_No-0_Yes_1  | -,182                            | ,782               | -,066                          | -,233 | ,820  |
|        | Importance_info_provision_No-0_Yes_1_Very-important_2   | ,953                             | 1,015              | ,266                           | ,940  | ,370  |
|        | Importance_payment_to_other_organizations_for_infor_provision_No-0_If-very-needed-1_If-there-are-enough-sources-2_Yes-3 | ,457                             | ,317               | ,394                           | 1,441 | ,180  |

а. Зависимая переменная: Innovation\_implements\_new\_improved\_Goods-1\_Services-2\_Both-3



Figures 10 - Regression Analysis Results

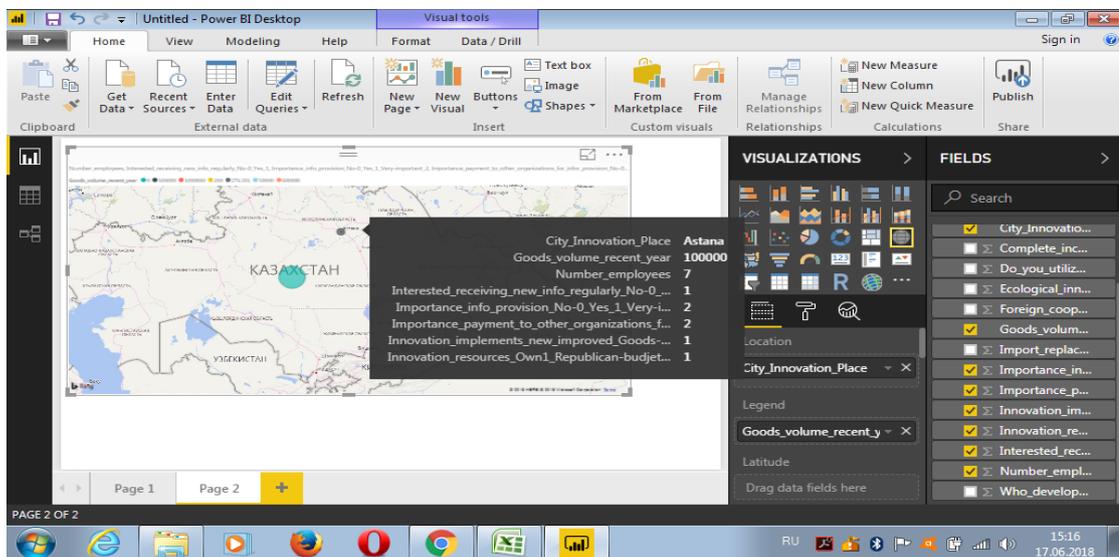


Figure 11 - Visual representation of summary statistics in the Microsoft Power BI environment

From the survey results, preliminary conclusions can be made about the feasibility and importance of unified data sources on the latest existing research and development results for domestic organizations and industries, taking into account local specifics.

There has been developed a model of the life cycle of innovations in relation to external information resources necessary for the successful execution of work at its stages, and the peculiarities of information support of innovation activities at the stages of the life cycle of innovations.

A multi-aspect questionnaire survey was conducted and survey was completed with 36 (thirty-six) innovation and academic organizations and experts of the RK. Survey results were collected to identify and to study the problems of information support for innovation activities.

The results of the analysis obtained with Google Form and IBM SPSS environment confirm the working hypothesis about the feasibility and importance of unified sources of data on the latest research and development for domestic organizations and industries.

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## HEINNOVATE AS A TOOL IN DEVELOPING STRATEGY OF TURAN UNIVERSITY

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**Abstract.** Knowledge economy demands strong knowledge generating domains. Higher education institutions pretend to be the most efficient one due to the inflow of young minds that supposed to be more creative. Another reason is a joint effort of students with university professors and technology transfer staff that lead to synergy and cutting-edge technologies and innovations. However, the main issue in raising entrepreneurialism among students and professors is the subject of the strategic management. HEInnovate can be considered as a strategic tool in upgrading the university entrepreneurial ecosystem. This self-assessment tool is helpful for the universities in setting priorities and key performance indicators for their strategies. Turan University is first in Central Asia to explore HEInnovate self-assessment tool. The university corrected its plan of actions in implementing its entrepreneurial mission based on the self-assessment results.

**Key words:** HEInnovate, entrepreneurial university, strategic development, innovation management

### Introduction

The transfer of scientific and technological knowledge from universities to industry is a crucial factor in the economic development of the country (Aghion, Dewatripont, and Stein 2008). The university should serve as a generator and conductor of knowledge, contributing to economic and social development through the triad of missions - education, research and entrepreneurship (Guerrero, Cunningham, and Urbano 2015).

Evolution of the mission and functions of universities in Western countries is due to two successive academic revolutions. In the 19th century, the first academic revolution led to the integration of research and teaching in universities in the United States. This system was progressive, since, 1) the costs of research were reduced by the “cheap” labor force in the person of doctoral students and 2) the constant generation of new ideas ensured by the continuous influx of new students to universities.

The second academic revolution provided the merging of the academic and business sectors, which provided the successful commercialization of scientific research. At the first stage of this integration, only the mechanism of intellectual property protection appeared, without considering the plans for its practical

application. The second stage is characterized by deep penetration of the concept of practical application of research results and, as a result, their developers are involved in entrepreneurial activity and create innovative start-up companies. And, finally, at the third stage, scientific activity is fully aimed at generating income. As a result of such evolution of universities mission “Times Higher Education” the world university ranking system started to evaluate research and industry income indicators. In particular, the highly-ranked universities of Kazakhstan have low meanings of those indicators in comparison to the world-known universities (Table 1).

Table 1 – Ranking of the universities of Kazakhstan according research and industry income indicators, 2018

|                         | L.N. Gumilyov Eurasian National University | Al-Farabi Kazakh National University | Oxford University | Duke University |
|-------------------------|--|--------------------------------------|-------------------|-----------------|
| Position in the ranking | 1001+                                      | 801-1000                             | 1                 | 18              |
| Industry income score   | 34   | 42.7                                 | 67                | 100             |
| Research score          | 7.6  | 9.4                                  | 99.5              | 78.8            |

An analysis of R&D status in Kazakhstan shows that over the last 8-10 years there has been a gradual overflow of research resources into the higher education sector (Tables 2,3).

Table 2 – Gross expenditures on R&D by sectors in 2005, 2010, 2015 and 2018

| Sectors       | 2005 | 2010 | 2015  | 2018 | Growth rate |           |           |
|---------------|------|------|-------|------|-------------|-----------|-----------|
|               |      |      |       |      | 2010/2005   | 2015/2010 | 2018/2015 |
| Public sector | 46%  | 37%  | 29%   | 24%  | 126%        | 164%      | 119%      |
| Industry      | 39%  | 37%  | 40%   | 54%  | 145%        | 227%      | 45%       |
| HEI           | 14%  | 17%  | 19,5% |      | 196%        | 234%      |           |

|                |      |      |      |       |       |      |      |
|----------------|------|------|------|-------|-------|------|------|
|                |      |      |      | 13%   |       |      | 399% |
| Non-commercial | 1%   | 9%   | 11%  | 9%    | 1061% | 251% | 119% |
| Total          | 100% | 100% | 100% | 100 % |       |      |      |

Growth rate of R&D expenditures in HEI sector is almost doubled in 2018 despite of shrinking of its share in GERD in 2015-2018. The positive point is that shrinking happened at the expense of R&D expenditures growth in industry.

Doubled growth of R&D personnel in the higher education sector since 2005 correlates with the doubled R&D expenditures in this sector, despite of 17% decrease in 2018 to 2015 level (Table 3). This confirms that number of researchers is highly dependent on higher education expenditures on R&D (Seitkazyeva A. et al., 2016)

Table 3 – R&D personnel in the higher education sector in 2005 – 2018

|                              | 2005 | 2010 | 2015  | 2018 | Growth rate   |               |               |
|------------------------------|------|------|-------|------|---------------|---------------|---------------|
|                              |      |      |       |      | 2010/<br>2005 | 2015/<br>2010 | 2018/<br>2015 |
| Number                       | 4035 | 5232 | 10623 | 8808 | 130%          | 203%          | 83%           |
| Share in total R&D personnel | 21%  | 31%  | 43%   | 39%  | -             | -             | -             |

The following factors influenced the flow of budget funds into universities:

- Formation of national and research universities;
- allocation of significant funds to 11 universities for the training of highly qualified specialists in priority sectors of the industry in the framework of the State program of industrial and innovative development of the Republic of Kazakhstan for 2015-2019;
- merge of some research institutes with the universities to ensure the integration of education, science and industry, and training of highly qualified scientific and scientific-pedagogical staff according the State Program for the Development of Education of the Republic of Kazakhstan for 2011–2020.

The national statistical agency shows the positive trend in the structure of R&D funding in the higher education sector: if in 2015 almost 90% of R&D was publicly-funded, in 2015 it felt down to 73%. Accordingly, their own expenditures for R&D funding increased from 7% to 14%.

There are two ways to implement the university's entrepreneurial mission. The first direction is connected with the training future entrepreneurs - persons

willing to establish and take responsibility for their own business. The second direction is the entrepreneurial activity of the university itself: creation of business incubators, technology parks, subsidiaries, etc. The university should involve students and graduates in entrepreneurship, providing them not only information and consulting, but also resource assistance (Schulte 2004).

Local and foreign experts believe that "the system of higher education in Kazakhstan should and can perform the functions of a systemic coordinator for the innovative development of regions and play a leading role in effectively ensuring the transition to the knowledge economy (UNECE, 2012).

This reflected in the strategic programs of the country. The President of the Republic of Kazakhstan N.A. Nazarbayev in his messages has outlined the following areas for the development of universities:

- providing a new level of education and research;
- advancement of Nazarbayev University as a model for all Kazakhstani universities;
- 5% of all universities should carry out innovation activity by integration with industry;
- the formation of innovation-intellectual cluster around Nazarbayev University to promote the generation and transfer of new knowledge and technologies;
- Upgrading the national universities physical infrastructure.

The Strategy for the Industrial-Innovative Development of the Republic of Kazakhstan for 2003-2015 aimed the course on the innovation development. One of its tasks was "encouraging knowledge-intensive and high-tech export-oriented industries". The Strategy made possible to build the main elements of the technology commercialization system: technology commercialization funding programs, technology transfer offices, business incubators and technology parks. Adopted in 2015 the Law "On technology commercialization" regulates the rights of authors and universities as employers in generation and commercialization the knowledge, states the principles of the public policy in the field of technology commercialization, the competences of the ministry and local executive bodies, and the mechanisms of technology commercialization.

Academic entrepreneurship in Kazakhstan is actively developing in the form of student entrepreneurship. For example, in accordance with the Regional Development Strategy until 2030 the International Startup Academy is established by the Pavlodar State University named after S.Toraigyrov. Its activity is aimed at stimulating the academic entrepreneurship, as well as the commercialization of scientific and research projects. The Young Entrepreneurs Club "MOST" launched MOST Microsoft Startup Academy in partnership with Microsoft. The private platform iStartUp.kz collects interesting start-up projects from all over Kazakhstan in various directions. It provides an opportunity to get opinions, evaluations and recommendations from experts from all industrial sectors, to communicate with

potential investors and learn about the most important and interesting startup events not only in Kazakhstan, but in other countries as well.

However, the universities of Kazakhstan have not yet properly developed to contribute to the regional innovation development. They do not have efficient ecosystem, qualified innovation managers, sufficient autonomy, knowledge and innovation management system, etc.

### **HEINNOVATE as a practical tool for the university strategy**

For many years, the Local Economy and Employment Development (LEED) Program of the Organization of Economic Development and Cooperation (OECD) has supported policy development to enhance the local influence of entrepreneurship and innovation.

The LEED Programme was invited by the German Federal Ministry of Transport, Building and Urban Affairs in 2005 to collaborate with the six New Federal States in identifying and disseminating good practice in local entrepreneurship development and small business growth. In addition to an assessment of several local economic systems, this collaboration included a review of entrepreneurship support provided by eastern German universities.

The results of LEED work and the eastern German case studies have led to the development of a criteria list of good practice, which shall help those designing and those in charge of entrepreneurship support in universities to self-assess and re-orient their work.

Based on those criteria LEED joined forces with the European Commission, DG Education and Culture and developed a joint Guiding Framework which allows higher education institutions to self-assess their strategy and practices in promoting entrepreneurship. HEInnovate is a key instrument to promote the entrepreneurial university, which is outward looking and flexible and thus more responsive to current and future needs of society, humankind and nature.

HEInnovate guides universities through identification, prioritization and action planning in eight key areas:

- leadership and management,
- organizational capacity: financing, people and incentives,
- education and training of entrepreneurs,
- preparation and support of entrepreneurs,
- digital transformation and capabilities,
- knowledge sharing and collaboration,
- internationalization
- impact measurement

HEInnovate also diagnoses strengths and weaknesses, initiates discussions and debates about the entrepreneurial / innovative nature of the institution and allows universities to compare the evolution over time.

Henry Colette (Henry 2015) offers HEInnovate as an easily accessible and widely applicable self-assessment tool used in higher education. His conceptual paper, based on existing concepts for evaluating entrepreneurial education, in particular the Six Steps to Heaven (Storey 2017), explores how to achieve a more reliable application of the HEInnovate self-assessment tool. Hannon Paul (Hannon 2013) concludes that HEInnovate helps understand the features of entrepreneurial HEIs, the achievement of which will contribute to the development of such HEIs. Turan University is the first higher educational institution in Central Asia, which explored HEInnovate as a self-assessment tool.

The University was established in 1994. It is one of the first and largest private universities in Kazakhstan and positions itself as an entrepreneurial and globally competitive university, which generates and successfully implements innovations and provides high quality education. It positions themselves as a natural incubator, supporting faculty members and students in the generation and implementation of new knowledge. The University's motto is "For those who believe in themselves and strive for success!"

Fifteen departments provide 24 undergraduate majors, 15 graduate majors, 5 doctoral programs. There are 318 faculty members, including 39 doctors of science, 122 candidates of science, 20 PhD. They educate 4080 students of: undergraduate level - 3665, graduate level - 349, doctoral level - 66.

To ensure the best conditions for the formation of an entrepreneurial spirit, the business incubator was established at the university in October 2016. The faculty members are encouraged to become start-up founders.

The Strategy of the Turan University for 2016–2020 was developed in 2016 based on wide discussion with students, faculty members and external stakeholders.

According to the Independent Agency for Accreditation and Rating, in the last 5 years Turan University recognized as one of the top five universities in social field in Kazakhstan. In 2018 the University awarded the 6th place in the TOP-20 universities of Kazakhstan.

The University Strategy has the following tasks:

- to ensure the integration of the university into the international community;
- to ensure the integration of education, research and industry;
- to create conditions for the commercialization of intellectual property and technologies.

SWOT analysis revealed the strengths and weaknesses, potential opportunities and threats for the transition of the university to a new type. Promising strategic directions for the development of the university for 2019-2024 are considered the following:

- Entrepreneurial freedom: the generation of knowledge and the formation of entrepreneurial thinking;

- Innovative educational programs, practice-oriented and promoting the cross-cultural competence;
- Entrepreneurial ecosystem to get synergy from science, education and industry collaboration;
- Strategy of digital development: SMART-university and smart infrastructure;
- Customer-oriented marketing strategy;
- Internationalization of the university, etc.

Turan University used HEInnovate assessment tool in February –May of 2017 to find its gaps in promoting entrepreneurial strategy. The results of Turan University’s self-assessment are largely positive, with all seven dimensions that were completed showing an average score across all respondents of between 3.8 and 3.9 out of five. This indicates, in general, the university is doing well across all dimensions, but there is room for further improvement. There is a variation in scoring across the different roles, with administrative leaders consistently scored statements lower than other groups and students scoring more positively. This is different to the norm, where university administrators often score the dimensions more generously than other staff or students. This result may be due to a lower visibility of activities among the administrative leaders of the university. These scores are summarised in Table 4, below.

Examining how individual statements were scored reinforces the overall positivity of respondents to the exercise. A significant proportion of scores under each statement were at the higher end of the scale (4 or 5). However, some of these demonstrate a higher degree of agreement between respondents than others respondents do.

Table 4 - Self-assessment results, by dimension and stakeholder group

| <b>Role</b>                     | <b>Leadership and Governance</b> | <b>Organisational Capacity</b> | <b>Entrepreneurial Teaching and Learning</b> | <b>Preparing and Supporting Entrepreneurs</b> | <b>Knowledge Exchange and Collaboration</b> | <b>The Internationalised Institution</b> | <b>Measuring Impact</b> |
|---------------------------------|----------------------------------|--------------------------------|--|---|---|--|-------------------------|
| Administrative leader           | 2.8                              | 2.6                            | 2.7  | 2.9   | 2.8   | 2.6                                      | 2.3                     |
| Dean / Head of School / Faculty | 4.5                              | 4.5                            | 4.0  | 4.3   | 4.7   | 4.3                                      | 4.1                     |

|                          |     |     |     |     |     |     |     |
|--------------------------|-----|-----|-----|-----|-----|-----|-----|
| External stakeholder     | 4.0 | 4.1 | 4.2 | 3.9 | 4.4 | 4.1 | 3.1 |
| Professor / Teacher      | 4.4 | 4.3 | 4.2 | 4.1 | 4.4 | 4.1 | 4.1 |
| Rector / Vice chancellor | 4.0 | 3.8 | 3.4 | 3.6 | 3.5 | 3.4 | 3.6 |
| Student                  | 4.1 | 4.1 | 4.1 | 4.0 | 4.1 | 4.1 | 4.1 |
| Dimension average        | 3.9 | 3.8 | 3.8 | 3.8 | 3.9 | 3.8 | 3.8 |

Source: Turan University HEInnovate self-assessment results

These are summarized below in Table 5, below, and provide useful insights into which strengths the university can usefully build upon.

Those statements for which scoring was more evenly spread – i.e. where respondents agreed less on the status of the statement – are summarised in Table 6. These statements represent potential areas for improvement.

Because of the self-assessment outcomes, discussion six common areas were identified as priorities for action:

The significant public profile and broad engagement in civic responsibilities of the head of the university identified as a significant strength of the university.

The university has a good number of teachers that can teach entrepreneurship, but there is a need for more teachers to be in post that can design and deliver materials based on their own experience. There was also a desire to attract more teachers that are international.

Table 5-Areas of higher agreement in self-assessment results

| <b>Dimension</b>             | <b>Statements with high agreement</b>   |
|------------------------------|---|
| Leadership and governance    | The HEI encourages and supports faculties and units to act entrepreneurially                          |
| Organisational capacity      | The HEI has the capacity and culture to build new relationships and synergies across the institution  |
| Entrepreneurial Teaching and | The HEI provides diverse formal learning opportunities to develop entrepreneurial mindsets and skills |

| <b>Dimension</b>                       | <b>Statements with high agreement</b>   |
|--|---|
| Learning                               |   |
| Preparing and Supporting Entrepreneurs | The HEI increases awareness of the value of entrepreneurship and stimulates the entrepreneurial intentions of students, graduates and staff to start-up a business or venture |
|  | The HEI supports its students, graduates and staff to move from idea generation to business creation  |
| Knowledge Exchange and Collaboration   | The HEI demonstrates active involvement in partnerships and relationships with a wide range of stakeholders   |
| The Internationalised Institution      | Internationalisation is an integral part of the HEI's entrepreneurial agenda.   |
| Measuring Impact                       | The HEI regularly assesses knowledge exchange and collaboration.  |

Source: Turan University HEInnovate self-assessment results

While entrepreneurialism and innovation are of significant importance to the university, it was agreed that more should be done to ensure that an entrepreneurial culture is present across all teaching staff of the university

There should be work conducted to address a lack of internal structures to support staff. Participants identified a need to shift the mindset and readiness of the university's students to better understand entrepreneurialism, and ensure that they are better placed to receive and absorb the curriculum and materials.

Table 6 - Areas of lower agreement in self-assessment results

| <b>Dimension</b>          | <b>Statements with low agreement</b>   |
|---------------------------|--|
| Leadership and governance | There is a model in place for coordinating and integrating entrepreneurial activities across the HEI   |
| Organisational capacity   | Entrepreneurial objectives are supported by a wide range of sustainable funding and investment sources |

| <b>Dimension</b>                       | <b>Statements with low agreement</b>  |
|--|---|
|  | The HEI invests in staff development to support its entrepreneurial agenda  |
| Entrepreneurial Teaching and Learning  | The HEI validates entrepreneurial learning outcomes which drives the design and execution of the entrepreneurial curriculum |
|  | The HEI co-designs and delivers the curriculum with external stakeholders   |
| Preparing and Supporting Entrepreneurs | The HEI facilitates access to financing for its entrepreneurs   |
| Knowledge Exchange and Collaboration   | The HEI integrates research, education and industry (wider community) activities to exploit new knowledge                   |
| The Internationalised Institution      | International perspectives are reflected in the HEI's approach to teaching  |
| Measuring Impact                       | No significant areas of disagreement  |

There was a strong belief that university-business cooperation can be improved. There are already many active links within the university, but consideration is needed on the openness of business to collaboration, and the ways in which more investment can be realised in this area. There was also a need identified to consider the employability of graduates, and their flow in and out of industry.

Based on those priorities the relevant changes were integrated into the Strategy of the university. All changes were discussed with faculty and staff members during strategic session held every semi year in June and January. First, a block of changes were made to the internal rules of faculty and administrative staff recruitment and training to support the entrepreneurial mission. Second, bunches of entrepreneurial courses are integrated into all academic programs.

### **Summary**

Knowledge economy demands strong knowledge generating domains. Higher education institutions pretend to be the most efficient one due to the inflow of young minds that supposed to be more creative.

Another reason is a joint effort of students with university professors and technology transfer staff that lead to synergy and cutting-edge technologies and innovations.

However, the main issue in raising entrepreneurialism among students and professors is the subject of the strategic management. HEInnovate can be considered as a strategic tool in upgrading the university entrepreneurial ecosystem. This self-assessment tool is helpful for the universities in setting priorities and key performance indicators for their strategies.

Turan University is the first in Central Asia to explore HEInnovate self-assessment tool. The university corrected its plan of actions in implementing its entrepreneurial mission based on the self-assessment results.

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## PROSPECTS OF INTEGRATION AND INTERACTION OF SCIENCE, EDUCATION AND PRODUCTION: INTERNATIONAL AND NATIONAL EXPERIENCE DEVELOPMENT

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**Abstract.** The article deals with the problems and prospects of the integration of science and education in the conditions of innovative development of the economy of Uzbekistan. The analysis of the world leading higher educational institutions with scientific traditions and the state of the domestic market of primary educational services, as well as the analysis of the necessary resources, educational, scientific and practical potential and capabilities of the Republic of Uzbekistan. Foreign experience and opportunities of creating foresight centers, as well as scientific and educational clusters were studied. As international experience shows, as a result of the integration of science, education and production, the potential for training competitive, meeting international standards of scientific personnel increases. In this regard, the recommendations for improving the system of training of highly qualified scientific and pedagogical specialists are proposed.

**Key words:** innovation, integration, science, education, foreign experience, competitiveness of personnel, foresight centers, scientific and educational clusters.

Nowadays, the integration of science, education and the production process is one of the most important conditions for Uzbekistan to become one of the most developed countries in the world. For this, Uzbekistan, along with other states, has all the necessary resources, scientific and practical potential and capabilities. The state proposes a strategy, develops directions in which the integrated system of national science and education should move, and the economic sector should specify the strategy. Researchers of higher educational institutions completely dominate among developers of technologies in oil and gas production, pharmaceuticals, production of the medical equipment and semiconductor materials. At the same time, most of the world's leading higher education institutions have been working closely with major corporations for many decades.

Usually, such cooperation begins with a clear formulation of the existing technical problems, and then the issues of scientific, human and financial support are solved. And the work aimed at solving a specific problem, stimulates the emergence of the "innovation conveyor", which today moves forward the leading economies of the world. Most higher education institutions with scientific traditions conduct world-class research in dozens of industries and a variety of different areas at the same time. These are such research centers as the University of California at Berkeley, Harvard University, Massachusetts Institute of technology, Moscow state University and others. At the same time, in the countries

of "catching-up development" – China, India, South Korea – scientific and educational universities appeared not as a result of evolution, as a response to a request from business, but were created by Directive, by combining state scientific and educational centers. In such research centers, scientific research is conducted in several related areas [1].

Time requires accelerated development of science, raising it to a higher level. The legislative and regulatory acts and programs adopted in the Republic of Uzbekistan in recent years are a prerequisite for improving this area. Thus, the Presidential Decree "On measures to further improve and stimulate the activities of academicians of the Academy of Sciences of the Republic of Uzbekistan" outlined a number of important measures aimed at strengthening the role and place of science in the socio-economic development of the country, full support for the activities of academics, improving the quality of training of highly qualified scientific personnel [2]. By the decree of the head of our state dated September 25 this year, the Fund "El-Yurt umidi" was created under the Cabinet of Ministers of the Republic of Uzbekistan. It contributes to the active involvement of our compatriots abroad – scientists, specialists and experts to the ongoing large-scale reforms in Uzbekistan, as well as talented young people in education in developed countries, training in leading international institutions and foreign organizations [3].

At the same time, it should be noted that many higher education institutions in Uzbekistan are still cut off from the real needs of the regions, which is reflected in the discrepancy between the level of graduates and the demand in the local labor market. They are also still far from the business sector. It seems to us that a systemic measure that could stimulate interaction between universities and production in the scientific and technical sphere could be the creation of conditions that would give business the benefits of cooperation with universities.

For the full-scale development of science and education, the training of highly qualified scientific and pedagogical personnel is also of great importance. In this direction, the Republic of Uzbekistan is carrying out a phased activity of training of scientific personnel in the framework of doctoral studies. According to the results of research activities in the system of higher education in 2018 in the system of higher education there are 24713 teachers, of whom 8407 have a degree of teachers (34.1 %), including doctors of Sciences - 1711 people (7.0 of the total number of University teachers), candidates of Sciences and PhD - 6696 (27.1%). During the 2017-2018 academic year, 847 doctoral theses were successfully defended, which allowed to increase the scientific potential of universities by 3.1 times in one year.

In 2018, 672 research projects worth 47.9 billion UZS were carried out in the universities of the Republic, including 187 projects of basic research, 337 projects of applied research, 142 innovative projects. Together with the Dutch company Elsevier, a joint program "Science-2020" is being implemented, the purpose of

which is to increase the scientific potential of universities, the recognition of scientific journals and articles of scientists of the Republic at the international level.

As part of the development of this direction, it is necessary to note the activities of domestic research centers, institutes and innovative structures. Three new research institutions at the National University of Uzbekistan named after Mirzo Ulugbek began their activities: the Center of nanotechnology, the Research Institute of semiconductor physics and microelectronics, the Institute of Biophysics and biochemistry.

Another such organization is the research center "Scientific bases and problems of economic development of Uzbekistan" at the Tashkent state University of Economics. The center was established in accordance with the decree of the President of the Republic of Uzbekistan dated February 28, 2013 № PP-1927 "On the establishment of the research center "Scientific bases and problems of economic development of Uzbekistan" at the Tashkent state economic University".

The main activity of the center is to conduct fundamental and applied research of scientific problems of reforming and sustainable development of the economy, a comprehensive study of the economic and resource potential of the regions of the Republic, the study of the scientific foundations and methodological problems of the formation and development of the financial market, in-depth study of demographic processes, factors, conditions and features affecting their development in the regions of the Republic, the development on this basis of science-based proposals for the implementation of a rational demographic policy, effective employment of the able-bodied population, as well as in promoting the integration of scientific results in the educational process.

To date, the center has created and systematically operates a discussion platform, where a wide and effective discussion of the problems of large-scale economic reforms is carried out with the involvement of economists from other scientific organizations, specialists of ministries and departments, leading sectors of the economy of the Republic, territorial authorities and the business community, the results of which are prepared analytical materials of an applied nature in various economic departments.

At present, the center assists domestic ministries and departments in the development of innovative scientific and practical projects, in particular in the creation of educational clusters in the regions of the country, as well as foresight centers at leading educational institutions. Recently, the state has been actively implementing financial support to increase innovation activity. At the same time, the scale and pace of development of science and innovation should ensure that the country's potential corresponds to the level of world scientific and technological progress. At the same time, the carried out analyses show still insufficient work on innovative development of modernization processes, due to the lack of many

indicators and ineffective coordination of work in this direction, our country in recent years does not participate in the ranking of the Global innovation index, compiled by influential and authoritative international structures. The low level of interaction of economic and social sectors with scientific institutions, the lack of proper coordination of the activities of ministries and departments, as well as public authorities in the field of innovative development do not allow to ensure the achievement of priority goals and objectives in this direction. In order to accelerate the development of the above processes, the Decree of the President of the Republic of Uzbekistan "On approval of the strategy of innovative development of the Republic of Uzbekistan" was adopted, which noted the creation of foresight centers in leading educational institutions as one of the objectives of the strategy [4].

Foresight is a system of methods of expert evaluation of strategic directions of socio-economic and innovative development, identification of technological breakthroughs that can have an impact on the economy and society in the medium and long term. In different countries Foresight is based on different methodological and organizational principles. Common is the involvement of public forces in the discussion and comparison of long-term forecasts, development strategies, development of a comprehensive vision of the future and coordination of ways to achieve it. Foresight is used in many countries of the world, not only developed but also developing. Rich experience in this field is accumulated in such countries as the UK, Germany, Japan. On a regular basis, studies are conducted in China, Korea, South Africa, Latin America. In Colombia, for example, there are more than 60 foresight projects. The number of ongoing research in the world today is in the thousands. The European Foresight Monitoring Network (EFMN), the European Foresight Monitoring program, covers more than 2000 different studies that are conducted at the international level, at the level of countries, regions, industries, corporations [5].

The effectiveness of the foresight project depends on the tasks that are formulated at the initial stage of the study and adjusted in the process of their solution. The formation of a system of tasks for long-term forecasting of socio-economic processes is based, as already noted, on one of the principles of foresight research – the development of alternative scenarios for decision makers [6].

The purpose of creating foresight centers in leading higher educational institutions is to assist in training and retraining as a separate link in the system of forecasting the development of innovation activities in order to develop proposals for scenarios of industry and regional economy. As well as providing scientific and technological forecasting of internal and external environment, development of technological and innovative environment and priority innovative areas of higher educational institutions.

It is important to note the main objectives and activities of foresight centers should consist of:

- providing information and methodological support to teachers and managers of educational organizations, identification, generalization, dissemination of innovative pedagogical experience;
- creation of conditions for the development of mentoring, support of public initiatives and projects;
- formation of the most favorable conditions for the implementation of young scientists research activities, ensuring a high level of quality of their research;
- organization and conduct of research in the field of long-term forecasting and prioritization of socio-economic, scientific, technological and innovative development using the foresight methodology, including comparative studies with the participation of foreign experts;
- development and dissemination of foresight methodology and tools developed by international organizations and foreign research and educational centers to solve theoretical and practical problems;
- assistance in the integration of science, education and industry, as well as higher education institutions in international and national research programs and projects, networks of excellence;
- formation of a thought factory, organization of a system of training and preparation of interdisciplinary analytical groups engaged in forecasting, search for new areas with the use of innovative technologies [7].

The increase in the volume of scientific and technical information and the frequent change of technologies, the emergence of new fields of knowledge at the junctures of science also fundamentally changes the requirements for young professionals and the tasks of higher education. The principle of "Education through science and practical experience" becomes dominant.

As a result of the integration of science and education, the potential for training competitive scientific personnel meeting international standards is increasing. Another factor in the national importance of the integration of science and education is that it prepares the ground for a national program, a serious early study of methods and techniques of research by young people.

At the same time, there are still a number of problems associated with the process of improving the integration of not only science and education, but the issues of close interaction of this process with the producer remain not quite resolved.

Thus, on July 20, 2018, President of the Republic of Uzbekistan Sh. Mirziyoyev met with academicians, scientists and heads of higher educational institutions at the Institute of nuclear physics Of the Academy of Sciences of Uzbekistan. In his speech, the head of the country noted that in recent years science has moved away from the real needs of the economy, the interaction of theory and practice remained on paper. As a result of scientific and practical

research conducted at the expense of public funds, over the past five years, patents for no more than 700 scientific developments have been obtained. However, only 18 of them were introduced into production[8].

The solution of the problems described above requires the adoption of radical, non-standard, but effective measures to improve the activities of departments that will directly ensure the transfer of scientific developments and technologies into production, thus ensuring the demand for scientific developments by the country's economy. These measures should form the basis of the "road map" for the development of competitive science and technology in Uzbekistan, which will contain a detailed description of priority measures for the development of science and technology, the mechanism of their transfer to the industry, issues of financing, international cooperation, as well as measures for the integration of science and education. Such a "road map" should provide justification and description of the steps of science development in the short and medium term.

Another mechanism of interaction between science, education and production is the development of educational and innovative clusters in the country to improve the competitiveness of human capital and scientific potential. The educational cluster is a set of interconnected institutions of professional education, United on a sectoral basis and partnerships with industry enterprises; it is a system of training, mutual learning and self-learning tools in the innovation chain "science-technology-business", based mainly on horizontal links within the chain [9].

The aim of the educational cluster is to increase the efficiency of the educational services market by maximizing the use of internal and external factors of its development. This will allow: to use the significant innovative potential of the higher education sector; to meet the needs of all groups of consumers; to rationalize the use of limited resource potential; to smooth certain opportunistic moments that have a direct impact on the quality of educational services through a reasonable combination of competition and cooperation.

Summing up the experience of near and far abroad, I would like to mention that for our country the process of creation of the educational cluster as well as in Russia and Kazakhstan, it is necessary to start with the unification of educational standards and programs, which will train the students - future specialists of the industry, making the slope in the direction of approximation of theory and practice based on the integration of science, education and production. At the same time, as part of the formation of new standards of economic education, it is necessary to conduct a large-scale study of the experience of the world's leading universities in the field of Economics and business in the formation of the competencies of their graduates, to form educational programs and systems of quality indicators that allow graduates to provide the required level of training, taking into account the prospects for the development of high-tech industries in the economy of the Republic.

The approach of higher education to the requirements of international standards, the optimization of the training structure and the introduction of new quality assurance mechanisms, the development of network forms of education, increased mobility will allow to develop an optimal balance between the universality of knowledge, their fundamental nature and focus on production.

The implementation of these tasks should focus on improving the competitiveness of higher education in the global educational space. Thus, taking into account the experience of the CIS and far abroad conceptual approaches are the following areas:

- development of a network form of interaction of higher education institutions by providing practical orientation of education, deepening cooperation with organizations-customers of personnel;

- implementation of the concept of education, which involves the creation of an integrated educational, research and business environment within universities;

- bringing the vocational qualification structure of education in line with international classifications in the field of education and economic activities.

- development and implementation of innovative organizational and educational models and technologies to improve the efficiency of educational activities of higher education institutions [10];

- creation of an effective mechanism that will directly ensure the transfer of scientific research into the economy, thus ensuring the demand for scientific research;

- increased competition among universities. Universities should strive to attract highly qualified personnel, seek to recruit specialists who have studied abroad, expand cooperation with the private sector and the number of applied research, improve their international reputation.

- providing higher education institutions with greater autonomy and academic freedom in decision-making and relative financial independence;

- strengthening the skills of innovative management of universities. Many managers are not sufficiently aware of modern and effective principles of University personnel management;

- creation of foresight centers in leading higher educational institutions in specialized areas of training;

- the transformation of the leading universities in scientific and educational production cluster for systematic solution of issues of innovative development of industries and inter-industry complexes, taking into account the experience of creation of technological parks in educational institutions;

- formation of a system of motivation of educational institutions of the Republic of Uzbekistan, aimed at a significant increase in positions in international rankings, improving the image by improving the competitiveness of scientific and educational potential of the country.

The solution of the above tasks will serve as a comprehensive support in stimulating the teaching staff to research and innovation, primarily in the form of creative ideas and developments of employees, as well as to create favorable conditions for the active participation of young scientists in the scientific and educational sphere.

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## THE DEVELOPMENT OF ENTREPRENEURIAL THINKING IN STUDENTS AND TEACHERS IN A DIGITAL ECONOMY

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**Abstract.** The article discusses the need to rethink attitudes towards the teaching process in an entrepreneurial university, the key element of which is an entrepreneurial teacher with soft skills, including entrepreneurial thinking, creative creativity, innovation, social maturity and high professionalism.

**Keywords:** digital economy, higher education, business education, entrepreneurial university, entrepreneurial thinking, innovative technologies, soft skills.

Nowadays it is becoming more and more difficult to predict changes in the labor market. Nevertheless, there is a widespread practice of examining the main trends affecting it, which has the following statements:

1. First of all, in next 20 years, there will be a wave of technological change that will affect both producers and consumers. The introduction of robots, artificial intelligence increases the necessity to use digital devices among urban and rural population and a high demand in highly-qualified technical specialists.

2. In addition, according to the latest projections, developed countries are experiencing an active population aging. If in 2000 only 10% of the world's population was over 60, then by 2050 this share will reach 21%. In conditions of a slight increase in population in developed countries means increased competition for human resources.

3. Next point is that globalization reduces formal and informal barriers between countries in both trade and labor migration. This item is of a key importance for developing countries, as the factor of technological lagging can be the migration of highly skilled personnel due to unemployment, low wages in the market, shortage of personnel in richer and more technologically advanced countries. As soon as this trend already exists most economists believe that it will continue including attracting qualified personnel in offshore. In particular, investment banks in the United States and Europe do this for many years hiring employees in India and using the time difference as their advantage in work process [1].

4. Moreover, by 2050, the proportion of the urban population worldwide will increase from 50 to 72%. Urbanization leads to an increase in the number of

qualified personnel, the emergence of new projects such as “smart city” and increased level of competition.

5. Presumably by 2030, humanity will consume an average of 40% more basic resources. The threat of resource shortages and climate change is extremely relevant around the world. To develop environmental approaches to production and consumption, research in the field of environmental safety and many related areas will require even more specialists [2].

Another trend of foreseen changes is named the change in labor market structure by field experts. This transformation is due to the fact that:

- new technologies will automate a significant number of processes which will lead to the loss of jobs;
- new technologies create new business opportunities and therefore create jobs.

Since the first industrial revolution every wave of technological change has led to literal disappearance of a significant number of jobs. Many professions in demand today did not exist five years ago. From this point of view, experts believe that labor market will not be narrowed but will change its structure, compensating for the fall in employment by increasing demand for engineering and computer specialties. The new industrial revolution will not replace people with machines. On the contrary they are competences and abilities of people that become the key resource that determine competitive advantages of companies.

New technologies define new requirements for employees and create demand for new skills. A new digital reality will require a different set of skills [3].

Thus, there is a gap between those skills needed for employment and actual skills that employees tend to possess. Numerous studies show a striking degree of influence of latest technologies on the nature of employment [4].

According to a PWC survey involving more than 2,000 respondents from 26 countries, about half of the companies consider the lack of digital culture and the lack of relevant competences among employees to be the main difficulty in digital transformation. There are several important aspects to this:

- New technologies allow creating new products, services, changing the approach to production, that is creating competitive advantages;
- availability of technological solutions now determines the place of the company in the market;
- The effectiveness of technology introduction depends on employees skills

Thus, according to researchers, in the future the company’s success on market is determined by the quality of its employees who must possess all necessary competencies.

At the present stage, the competitiveness of country economies development is based on the modernization of higher education in the context of digitalization and introduction of innovative technologies. Fundamental changes in education system should be accompanied through teaching content revision such as

development of new educational programs with an entrepreneurial base and emergence of new specialties. In this regard, it is important to adapt education to the needs of innovative industry and economy digitalization focused on transitions from knowledge practice to creativity formation by employing innovative and entrepreneurial thinking skills, idea generating abilities and ability to find precise and appropriate information and its effective usage.

In our opinion, first of all an innovative economy is a social economy based on knowledge, innovations, perception of new ideas and technologies, readiness of their practical implementation in various fields of activity, where knowledge and innovations play a special role. At the same time, under the conditions of quasi-competition, an increase in innovation activity is the most important condition for the formation of an effective innovation economy, capable of speeding up the creation of an innovation-engineering-investment network infrastructure distributed across all regions of a country.

The main resource for achieving this goal, as international experience shows, should be coordinated activities of higher education institutions, scientific institutions and new innovative structures such as technoparks, independent centers of expertise for research projects, foresight centers, various experts and futuristic communities, and networks, allowing us to form a vision of our future.

On the other hand, under the conditions of active development of innovative activity in a society with an innovative economy, the attitude towards the main productive force who is a person of highly intellectual, highly productive labor changes completely. The role of highly qualified specialists in this innovation economy is very large and will constantly grow. Therefore, the training of personnel capable of effectively managing innovative processes, developing and implementing innovative projects should be a priority in state and regional program.

Under digitalization conditions, the boundaries of educational services are expanded through the possibilities of online learning and electronic resources which are emerging and expanding widely these days. "The Internet has broken geographic and temporary borders and barriers," said Dr. Jameel Salmi, an international expert in higher education. "Indeed, online learning allows you to watch lectures, courses from anywhere in the world. You can even remotely visit the virtual laboratories and conduct experiments in them. It is not an issue to be late for a lecture, to skip an important topic because a student can review an important lesson later and even several times. The gap between information access among developed and developing countries is narrowing. Access to a stable and powerful Internet is important [8]. Modern universities are "pioneers" in the implementation of electronic databases, electronic libraries, electronic journals and the use of an array of electronic resources in modern educational process.

Furthermore an attitude to teaching process needs to be rethought. A teacher is not able to influence a future specialist formation with high entrepreneurial

competencies unless he himself fully corresponds to a new type of higher education teacher who is an entrepreneurial university teacher. This teacher organically combines high professionalism, social maturity, innovative and entrepreneurial competencies and creative beginnings. A new type of teacher is an image and model of entrepreneurship and entrepreneurial culture, for instance with an ability to develop value judgments and scientific knowledge depth, an ability to dialogue, activity and independence. Such a teacher is characterized by such skills as an independent search for methodological solutions, the author's development of innovative methods and means of training, development and education. His innovative activity must be connected with the processes of self-determination, through building attitudes towards everything new, changing his thinking, his professional position, overcoming obstacles in the process of self-realization [5].

If we compare traditional educational approach with innovative one, it is clear that the process is built differently, not from general to particular (from theory to practice), but vice versa. As a part of entrepreneurial thinking formation, it is necessary to revise our attitude towards practice not as an additional educational format for value supporting theoretical positions, but as a key aspect of competency formation process. Otherwise, students, as a rule, do not understand transition from theory to real-life cases, which reflects complex, contradictory, conjugate, realities [6].

Thus, in practice-oriented approach as experience of Kazakhstani and Russian universities shows, practice can be put on the first place, when practical tasks such as business ideas, business projects and start-ups can be strengthened to theoretical knowledge. The goal of such training is undoubtedly entrepreneurial thinking development. Such an approach links practice and theory in the right proportion, all courses are adapted to different stages of project development and students can perform tasks in each discipline on the basis of their own project. Adaptation of disciplines occurs through linking start-up tasks at a specific stage of development to theoretical sections of disciplines. In particular, it concerns economic disciplines, marketing and company development strategy. The implementation of the proposed approach is possible under the conditions of a university autonomy increase and their independence in educational program formation.

The approach to entrepreneurial thinking formation through "hard skills" and "soft skills" combination is our area of interest. The concept of "soft skills" is understood as "a complex of unspecialized, important for a career over professional skills that are responsible for successful participation in the workflow, high performance and are cross-cutting, that is, not related to a specific subject area, used as an approach to assessing the results of entrepreneurship training. "Soft skills" can be developed either immediately in business or in educational programs framework implemented at the university. "By analogy with software, these skills make it possible to most effectively use "hard skills" that is, those professional knowledge and experience that a specialist possesses [6].

Modern market requires “soft skills” presence since their lack of results in a loss or refusal to work even if high-level professional knowledge and skills are present in a specialist. “It should be borne in mind that the higher a specialist goes up on a career ladder, the more important role “soft skills” play. Recognition of “soft skills” special value in a process of entrepreneurial thinking formation is confirmed, in particular, by inclusion of a completely new section “Project Stakeholder Management” into the fifth version of project management knowledge base “Project Management Body of Knowledge”, PMBOK 5 Edition [6].

The study of foreign experience shows that in Europe there is no single list of entrepreneurial competencies. These include a range of issues in which a person possesses authority, knowledge, experience for a successful business, as well as behavior that an employee demonstrates while performing tasks efficiently and carrying out entrepreneurial activities [7]. So, Bengt Johannisson, a well-known theorist in business education, the winner of the World Prize for his contribution to entrepreneurship research, identifies five competencies that are important for an entrepreneur:

- understand why a person wants to do this (“know why”);
- be able to do this (“know how”);
- understand who it is important to interact with in order for a business to be successful (“know who”);
- have a good intuition, that is, to feel when you need to start your business (“know when”);
- to have knowledge on the topic of business (“know what”) [7].

In 2006, a recommendation of the EU Parliament entitled “The European Framework of Key Competences for Lifelong Learning” was issued. Among the eight significant competencies, entrepreneurial competence was named (namely, the “spirit of initiative and enterprise”). Globalization has strengthened the need of economic systems to increase competitiveness and introduce innovations and this requires creative and enterprising people who are ready for change. Entrepreneurial competence can be defined as “an ability of a person to turn ideas into actions”. It consists of creative potential, readiness for innovations, willingness to take risks, ability to plan and manage projects to achieve the goal” [7].

As our education system becomes plagued with rigid testing and standards, opportunities to innovate, collaborate and demonstrate proficiency in real life situations become rare. In addition to encourage people, entrepreneurship education requires students to be innovative, creative and collaborative with others.

We live in an uncertain and complex world, where the big problems of today and tomorrow are yet to be identified. Teaching young people the skills and resilience to live and thrive in such a world is the purpose of entrepreneurial thinking.

Technology, especially artificial intelligence, robotics, and virtual reality continues to improve at breakneck speed. It will relieve humans of much, if not eventually all, of our mundane, daily tasks, both at home and in the work world, which is why the youth of today must learn and develop the skills that can't be replaced by machines.

If our current society is to benefit from the benefits of entrepreneurship, it's only fair that we equip ourselves with the training to do so. On the flip side, the personal benefits of studying entrepreneurship spread far beyond the business world leading to an arguably more prosperous livelihood. It goes without saying that we as a society should be doing more to help develop our entrepreneurial minds.

Strategic and sustainable development in entrepreneurial thinking formation is possible only on the basis of innovative teaching methods, since it is impossible to educate students-entrepreneurs in a non-entrepreneurial university and without teachers-entrepreneurs.

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## THE MAIN VECTORS OF STUDENTS' ENTREPRENEURSHIP DEVELOPMENT IN HOSPITALITY

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**Abstract.** In recent years, student entrepreneurship is becoming more and more widespread in universities. The youth community, consisting of teachers and students who want to realize their entrepreneurial potential by promoting various projects, including innovative ones, is steadily increasing. Student business incubator (SBI) is one of the key links in the organization of youth innovative entrepreneurship at the University "Turan". Its main task is to organize the commercialization process, including the stages of preparation, packaging and promotion innovative business ideas, the authors of which are students, undergraduates, as well as young scientists and specialists of the University.

**Key words:** students' scientific society, innovative activity, student entrepreneurship, innovative development, spin off companies

Innovation is an integral component of modern business. And what is the innovation of individual spheres of tourism activity? These are, first of all, tourism production, tourism marketing, corporate cooperation in the field of tourism, legal support of tourism, automation and 'informatization' of the tourism industry, etc. In order to engage in business for commercial and public purposes, participating in innovative processes in tourism and socio-cultural sphere, students need to know the main directions, tools, consequences of innovative processes in the hospitality industry. And how to stimulate innovative activity of students, to introduce their innovative technologies in corporations and industries? The question is very important, as in Kazakhstan textbooks on the disciplines of "Innovation management", "Innovation in social and cultural services and tourism" are absent.

However, in our opinion, the life itself dictates the point of application for student entrepreneurship. If in many universities student entrepreneurship declared itself a few years ago, at the University "Turan" much earlier. If we analyze the subject of innovation, namely, what has been done by students and teachers at the Department of "Tourism and service" over the past 20 years, we can note very important milestones.

The first innovative project of students was the project of creation of the ski complex "Tau-Turan", which became an integral part of the educational and recreational complex "Tau-Turan". In the early 2000s, on the slope of the mountain of the former ski resort recreation area were only one bare support without ropes. And the slope, which once went down from the top skiers, overgrown with bushes, and was deformed by large gullies. This is how he saw the author of the article

during the tourist and sports training of students, who became the initiator and at the same time the head of the innovative project of students to create a ski complex "Tau-Turan". Together, a business project was developed, which included a set of activities and costs for the restoration of lifts, ski slopes, its layout, the creation of a security fence on a steep and dangerous section of the track, the design of the launch pad. In addition, the business project included the cost of construction of premises for the locker room, ski and boot rental, storage of ski equipment, as well as a small dining room and gazebos, where you can eat at tables in the fresh air.

It should be noted that a significant part of this infrastructure was created from modular barrels of large sizes, which are used as utility rooms, locker rooms, utility rooms for workers at various construction sites. They were abandoned by their former owners on the territory of "Tau-Turan", and, thanks to the enterprise and ingenuity of students, were adapted for the needs of skiers as premises for the locker room, ski rental and boots, storage of ski equipment, as well as a small dining room where you can cook.

In General, the costs were not large, most of them were associated with the purchase of a cable for the lift and rope chairs for lifting on the "cable car". All other costs were mainly associated with the purchase of paint. Boards were found in a warehouse of educational and improving complex "Tau-Turan".

Just three months ski resort got a second life. Students took control of its operation, ensuring the safety of skiers on the ski slope. Within two years of operation of the ski complex all costs for its construction were fully reimbursed.

In 2018, the University students proposed new business projects. Thus, the project "Modern approaches to the creation of ski resorts (on the example of the ski complex "Tau-Turan")" was presented at the "Turan Readings" by Denis Sokoryan, a 2nd year student. He created it taking into account the relevance of the strategic prospects for the development of national ski resorts in recent years. The first President of Kazakhstan N. Nazarbayev spoke about one of the important issues of the current development is the diversification of foreign direct investment flows into the economy of Kazakhstan, and they should be directed to promising sectors, such as tourism. In this regard, an important project should be the development of world-class ski resorts near Almaty.

What is the reason for such close attention to the problems of further development of ski resorts?

The reason, first of all, is purely economic. Judge. Skiing is a very important segment of today's highly profitable domestic and foreign tourism market. Ski resorts specialize in recreation, allowing a huge number of people to safely enjoy the fragile mountain environment and learn it. If you build ski resorts on an environmentally sustainable basis, you can minimize their impact on nature, and at the same time maintain or improve business.

The student's study presents a strategic framework for the sustainable development of the ski complex "Tau-Turan" on the basis of two illustrative examples: the emerging direction and a well-developed direction.

The author of the business project came to the conclusion that only a systematic approach allows us to understand the environment where the ski slopes, cable cars and other components of the ski resort will develop. A mountain ecosystem is a system that largely determines human and economic activity. System factors can be changed only with the participation of large investments and high costs.

As for the modernization of the ski complex "Tau-Turan", it needs its own strategy to stimulate skiing by the local population. Its ski potential is sufficient. It is assumed that if 1000 people of the population as potential skiers will buy tickets every week during the season lasting four months, the potential number can reach the mark of 16,000 ski days. Add to this the cost of the subscription, and you will see the economic side of the issue. In order to convert this potential into demand, the management of the complex together with the private sector (ski schools and various clubs) should develop and Finance a strategic plan to stimulate the growth of ski sports. In our opinion, the most promising is the expansion of the ski area towards the Aktas ridge[2].

It is important to pay attention to work with children. Teaching children to ski must be compulsory. For example, in Andorra, 100% of children go skiing at least 15 days a year in schools. It is as compulsory a subject as mathematics and physics. Therefore, in the ski complex "Tau-Turan" should be opened a school for teaching children skiing.

One of the main tasks in the expansion of the ski complex in the region where there is no culture of skiing or insufficient level of this culture is to be able to interest and attract people to skiing. This is an important issue in emerging markets. The next task after that is to ensure their continued skiing.

All these measures should promote the idea of the benefits of the development of the ski resort "Tau-Turan" and its infrastructure for the local population.

At the same time, Ilya nesteryuk, a 2nd year student, developed the project "Organization of the school of ski training of students at the ski complex "Tau-Turan". Its essence lies in the fact that ski training of students should be included in the training program for higher and secondary special educational institutions. Since skiing is a seasonal activity, it is necessary to include them in the program from November to April and go to the training slope instead of physical education within the University. The University "Turan" ski training should be studied by students majoring in "Tourism" and "SCS". The University has its own ski base "Tau-Turan", where you can organize ski training of students. The slope of the ski complex "Tau-Turan" in its characteristics is perfect for teaching students ski training. Slope for beginners:

- length – 80 meters;
- steepness - 9 %;
- width - from 10 to 30 meters.

There is also a second slope for students who already have small riding skills with such characteristics:

- the height of the upper station – 1520 meters;
- the length of the slope of 700 meters;
- elevation difference -120 meters;
- average steepness - 15 %, some sections - 22 %;
- the width of the slope from 15 meters to 40 meters, roll on a horizontal platform;
- the thickness of the snow cover up to one meter.

Downstairs near the lift is the horizontal platform called the "Professor's meadow". The site is flat and wide, it is possible to work out the skills of running and walking on skis, so it is convenient to conduct explanatory conversations, explain the rules, equipment and everything you need to know before you climb the mountain.

On the basis of ski equipment rental, which is very convenient, do not have to carry all the equipment. It will be enough ski clothes. This project was supported by the necessary calculations of profitability and, most importantly, it did not require any costs.

Another project "construction of a ropes Park for educational and recreational complex "Tau-Turan" for the summer season was submitted by a student-a freshman Hope Vypritskiy. The rope Park is an exciting additional service for the existing or emerging tourism enterprises, which has its own territory as the complex "Tau-Turan". In addition to the fact that the rope Park is a complex that pays for itself in a short time, it is also a wonderful marketing move that allows you to attract visitors to the ski center.

The project has provided two systems of a safety of the line: the snap or safer continuous line insurance; number and degree of technical difficulty of the stages; which will be used as supports is a Park in the trees or is the Park on artificial supports; the necessary infrastructure (a facility for the storage and issue of inventory, staff room, office, BBQ or cafe). In General, to open a rope Park with an area of 300-500 sq. m will need to invest about 1 500 000 tenge. The question of the rate of return depends on the marketing support. With the right approach to the positioning and development of the complex, it pays for 1-2 years of active work since the start.

As for the "life Time" of the project, the minimum guaranteed service life of the supports of the rope Park is 10 years. Tasks and cables with proper maintenance will serve at least 10 years. In other words, the expected operating time without significant investments of 10-15 years. Operating costs will be mainly the replacement, repair and painting of small wooden elements jobs.

Taking into account the specifics of the training of future tourism managers, who should be able to do everything, including the ability to climb rocks, 2nd year students Andrienko Anton and Ovcharenko Oksana developed a business project "Modern climbing simulator for students of the University "Turan". Unlike other similar projects, previously proposed and cost about 80-100 million tenge, the cost of its construction in the gym amounted to about 800 thousand tenge. The payback of the project was within two years. This artificial climbing wall is the easiest in terms of construction, as well as the cheapest. The importance of its construction lies in the fact that students usually go to the mountains where there are real rocks to gain physical shape and improve sports skills. In the summer, it is very good for the organization of rock lessons, but what do students do in the winter?

Therefore, the construction of such a climbing simulator would allow students to engage in their favorite sport, regardless of the time of year and temperature, to train hand strength and endurance. It would also help to interest them in this sport, as there are only 3 sections of sport climbing in Almaty. Also, the construction of a climbing simulator provides an opportunity to hold sports competitions directly at the University "Turan". The estimated costs are as follows:

- 1Q.m. plywood (shield)-10 thous., i.e. at the number of shields  $4 \times 6 = 300$  thousand Tg.
- The frame of the climbing wall will cost about 70-100 thousand tenge.
- Full set of hook roughly 20-30 thousand tenge.
- Other equipment (ropes, carabiners, safety belts, braces)- 30-40 thousand tenge.
- Wages of workers for the construction of the simulator - 200 thousand tenge

The data are only approximate, they are not accurate. Possible costs are less than in the above calculation list.

The project "Sailing catamaran" Turan "was presented at the student competition of the best scientific projects of students "Turan readings" on February 15-16, 2018. Its authors are graduates of the University master of upland Roots and Vladimir Afonin, who for 10 years were winners of various sailing regattas. Its main characteristics and photos are presented below.

The author of the project the Roots of the Nagorno-on the catamaran "Turan" played at the world Championship in the class of small sailing vessels – "Caspian-2017" and won the silver medal.

The development of student science is one of the priorities of the University "Turan" at the present stage. The ability of graduates to implement in practice the results of their research or innovation is directly dependent on the organization of research work of students at the University. There are seven main vectors of the organization of student science at the University: 1) identification of talented young people and their involvement in research activities; 2) increasing the grant activity of students; 3) increase of publication activity of students; 4) preparation of

students for innovative activity; 5) expansion of contacts and development of professional communications between students (one University, different universities of the city, region, country, world); 6) development of student self-government, volunteering and leadership in the field of research activities; 7) creation of a University-wide scientific space [3]. This is aimed at the organization and development of student science in each of the selected seven vectors.

### «Turan» Catamaran



КЛАСС 10 м<sup>2</sup>  
Грот 8,5 м<sup>2</sup>  
Стаксель 2.2 м<sup>2</sup>



КЛАСС 13 м<sup>2</sup>  
Грот 10 м<sup>2</sup>  
Стаксель 3.2 м<sup>2</sup>  
Генакер 10 м<sup>2</sup>  
Спинакер 5 м<sup>2</sup>

### Team: «Turan» Class 10 (13)



| «Turan» Catamaran   |                   |
|---|-------------------|
| The type of vessel, if the serial model                         | 18 feet colicoid, |
| Name  | «Turan»           |
| Sail number, if already have                                    | KAZ1837           |
| Body material and color   | white, PVC        |
| Main sail, sqm  | 10                |
| Body length, m  | 5,5 m             |
| Maximum width, m  | 2,6 m             |
| Altitude above. the Board or jump over the water (clearance), m | 400 mm            |
| Load capacity, kg   | 350 kg            |
| Crew no more, people.   | 4 persons         |

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# CREATING SMART UNIVERSITIES AS A CHALLENGE TO MODERNITY

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**Abstract.** In article international experiences of foreign scientific communities in studying the building, properties and function of the smart universities, conditions and the nature of changes in the educational system of the Republic of Kazakhstan are considered.

**Keywords:** Smart University, Smart Teachers, Smart Pedagogy, industrial revolution, innovative technologies.

## **Introduction**

In the Message to the people of Kazakhstan of the President Kazakhstan N.A. Nazarbayev there is important point in which he told about reconstruction all spheres of life on the basis digital technologies, to be exact about transition to "the Industry 4.0" [1].

In present time in scientific community the concept of the fourth industrial revolution, based on these changes in the system preparation highly professional shots for progressive economy of Kazakhstan in the conditions transition to Smart society and digital technologies is actively discussed.

Relying on the international experience it is possible to tell that the educational institutions capable to embody the ideas of creation the Smart university would be the most competitive. They can provide base for realization in Kazakhstan a concept as Smart education, Smart economy and Smart society.

It is obvious that in the conditions of development society the educational paradigm will also change. The smart universities will perform new functions. Respectively, requirements to electronic training courses which provide needs of pupils for educational resources will change.

Objective of this research is theoretically to prove properties of the smart university, its structure and components and also for check its efficiency use experimentally.

## **Materials and methods**

The retrospective analysis of foreign literature where researches problems of transformation digital technologies in an education system and their developments were described is carried out. Also character and conditions their influence on the structural macroeconomic processes in various innovative digital systems which are constantly in the center attention of scientific community. The significant

contribution in the solution these problems are made such scientists as Vladimir L., Dzhefry P., Robert J., Lakhmi K., Palagin A.V., K.S. Malakhov and many others.

The scientific references, conclusions and recommendations which are contained in works of domestic and foreign scientists which researches were used in writing this work have huge value for studying the direction and the nature transformational changes in conditions of the fourth industrial revolution. Also it would be desirable to note how shows the analysis of literature, features development and occurrence of crises in recent years, this question is studied not enough that does this theme relevant. Not so long ago various researchers and developers began to present the visions to SmU (smart university), SmC (smart class), SLE (smart learning environment), a smart campus, the smart teacher, smart pedagogics, etc.; the summary of several remarkable publications on these themes are the review of classical literature is given below.

### **Results**

Smarts University (SmU) are the university at which combined the internet resources and technological innovations as in new quality processes and results of educational, research, commercial, social and other university activity.

Tikhomirov presented the smart education vision as follows: "The smart university is a concept which includes complex modernization of all educational processes. Smart education is capable to provide the new university where the ICT set and teachers lead to absolutely new quality results the university activity" [2]. Also it would be desirable to note what according to Tikhomirov can be understood that the concept Smart in education involves emergence such technologies as Smart Board (clever boards), Smart Screen (clever screens) and wireless Internet access from everywhere. It in the turn will result in availability of the necessary information to students, but follow to consider that with it the so-called "wave of information" which will need to be filtered and taken active users only a small part this mass of data will also come.

It should be noted that many authors consider that when determining the clever university it is also necessary to consider its components as: "Smart Learning Environments, Smart Education, Smart Teachers, Smart Pedagogy, and Smart Learner".

Smart Learning Environments (SLE) is using number digital technologies for support training, education and studying; they also give the visible index on how future educational environment can be created. Thus, while technologies continue to progress, SLE receive the growing attention from research community [3].

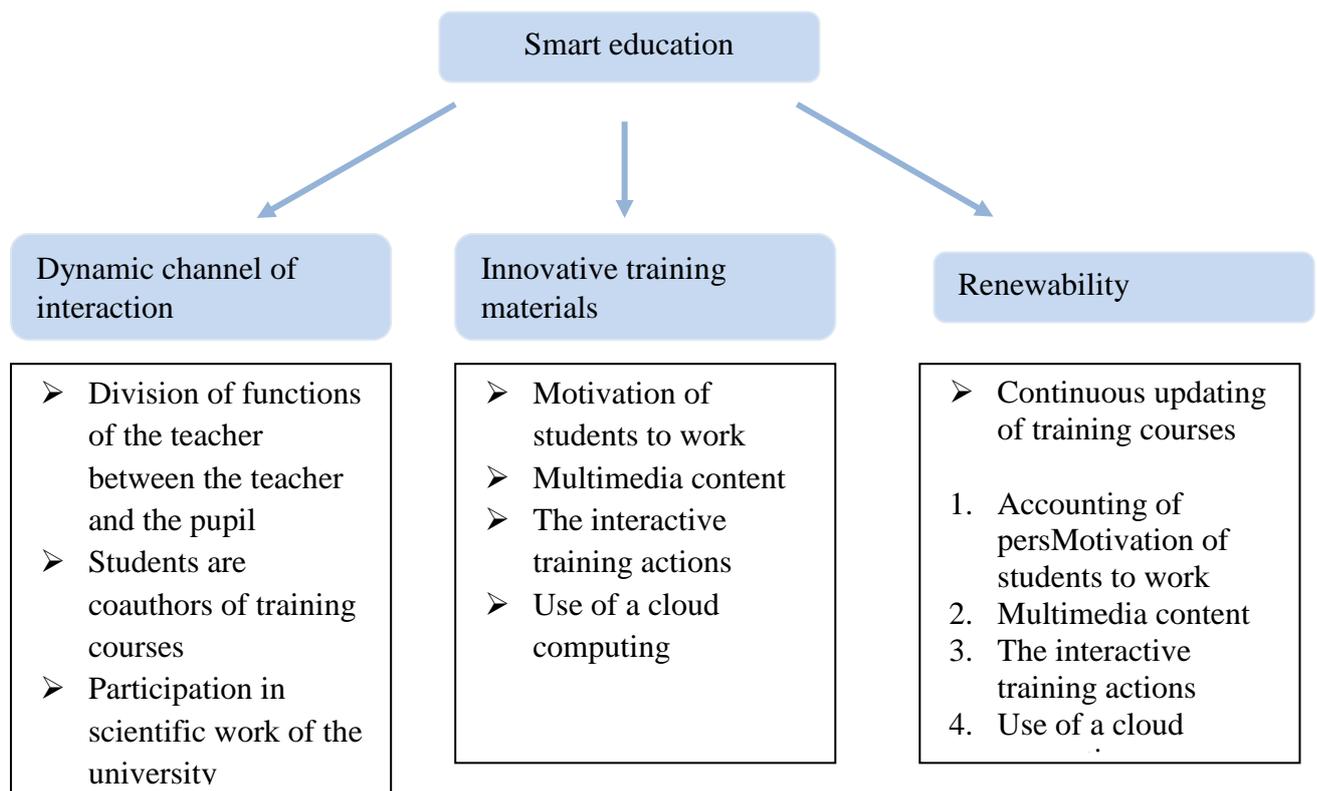
Mona Denden and Ahmed Tlili consider that for present generation the same schemes and processes training on which their fathers and mothers were engaged became outdated. Therefore they decided to change the program training, introducing Smart Learning Environments, thereby facilitating digestion material, without loss volume and quality of the provided information [4]. How did it at

them turn out? The answer it was quite simple, and the decision quite clever. Though the most often used method for modeling to the identity the pupil is the self-report with use questionnaires, in the research they presented and checked recently developed basis for implicit modeling persons of pupils in the game educational environment with use their game behavior and innovative technologies. In particular, their research allocates several game Smarts environment which need to be collected for modeling the personality and also a way of collecting these Wednesdays with use of various game scenarios which researchers and practicing can use when developing the games. It can be considered as the training environment supported by technology which provides adaptation and provides the corresponding support in the right places and in due time depending on needs of certain pupils that can be defined by the analysis their behavior in the course training, progress, online and in real time. Authors compared 2 groups, the first are them studied by traditional methods training in traditional educational environments, other group gained knowledge in Smart environments with the same similar methods teaching. Results of their research were are as follows: the 2nd group in comparison with 1 group, had 23% above than a GPA, the volume of the memorable information grew by 13% and for 28% rose total number persons interested to profound studying subject gone to SLE.

Scientists from the People's Republic of China Ri Ting Ru and Mingg Hua Yu marked out ten key features for smart educational environment for students to whom are necessary of improvement knowledge and skills training [5]:

1. Information on location: learn location of the pupil in real time;
2. Accounting a context: to investigate various scenarios and information on student activity;
3. Socially awareness: feeling the social relations;
4. Compatibility: to establish the standard between various resources, services and platforms;
5. Seamless connection: provides continuous service at connection of any device;
6. Adaptability: to advance an educational resource depending on access to training, preferences and demand
7. Distribution is universal: to predict pupils needs until they are not accurately expressed, to provide a visual and transparent way of access to educational resources and services for pupils;
8. Full record: to write down data on a way training and to deeply analyses then to give a reasonable assessment, the offer and to help on demand;
9. Natural interaction: transfer feelings of multimodal interaction, including recognition the situation and look;
10. High involvement: immersion in polydirectional experience training in Wednesday interaction with rich technology.

Smart Education (SmE) is main "Smart" process of the smart university.



Scheme 1. Three basic functions of smart training [6].

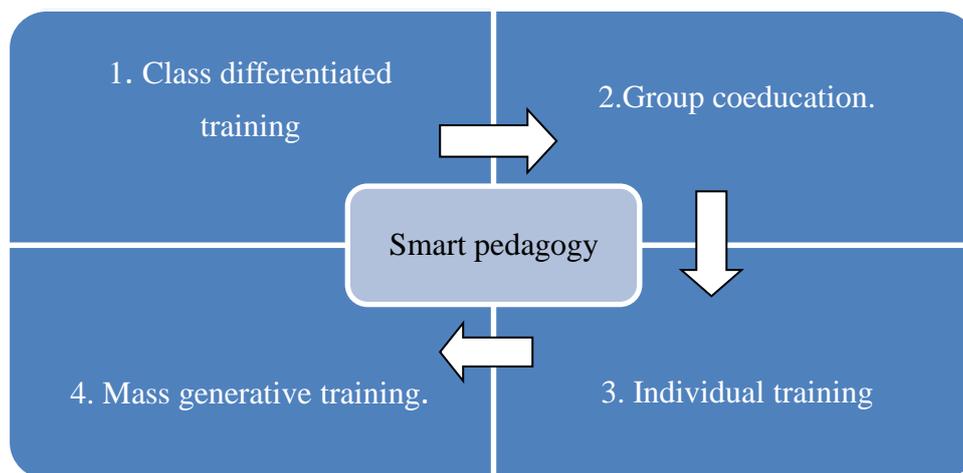
During in an era information society, development concept of the Industry 4.0, will appear the most competitive the higher education institutions capable to realize the ideas creation of smart university. They can make base for implementation in Russian conception of smart-education, smart-economics and smart society [7].

In scientific works from South Korean scientists Cheyon Ha and Cu-yong Li is specified that the research and implementation intellectual training in the state education is a significant step on the way to improvement the process and quality of training. During the research they studied the different variables connected with teacher's views of intellectual training. Though the persons responsible for development policy invested heavily in schools for creation the best technological infrastructure, intellectual training is not completely implemented at real schools. Schools and classrooms made changes in process of development technologies. Nevertheless, all promises which intellectual training tries to give in classrooms are not quite noticeable because one technology cannot lead to changes in pupils training. Therefore, to create a stable basis for the successful smart educational environment at schools, politicians and administrators should support teachers and encourage them to use computers and others new technologies in a class. This support includes change of training programs from traditional lectures on the interactive classes which were more oriented to students. Also their research shows

how psychological variables teachers are closely connected with successful implementation of smart training in concrete classes [8].

Smart teacher (SmT) is the teacher who is keeping up to date, able to use innovative technologies in the course of the pupils training, actively improving the professionalism and skills. The smart university depends on comprehensive strategy, including people, objects and continued support teachers and also effective using technologies. SmU encourage clever teachers and provides them smart tools and continued support for performance work, at the same time estimating their pedagogical efficiency by means the clever forms of assessment.

With fast development of technologies more and more flexible and effective training methods for students develop. Researches in the field of cognitive science showed that knowledge and skills are closely bound [9]. Training processes have to be adapted according to educational pupils needs including requirements, experience, interests, preferences, etc. [10]. Change of traditional training methods and the students environment led to emergence "Smart pedagogy" (SmP). The intellectual pedagogics system includes differentiated training at class level, group coeducation, individual training and mass generative training.



Scheme 2. Four-level structure of SmP [5]

1. The differentiated training is the process of approach to teaching and training for pupils with different abilities in one class.

2. Group coeducation is a situation when two or more persons study or try to study something together.

3. Individual training is the personalized training defined as adjustment of speed (individualization), correction approach (differentiation) and connection to interests and pupils experience for satisfaction pupil needs and support for development abilities to training among certain pupils [11].

4. The fundamental concept of generative training includes creation and improvement personal intellectual constructions about the environment. The

purpose consists in allowing pupils to participate in creation the transferred content and to form contexts training and transfer for creation the intercontextuality. When students study online, they can connect new information with old, acquire significant knowledge and use the metacognitive abilities [12].

At integration all these aspects and processes leads not only training process, but also process of storing large volumes to the obtained information improvement.

The 21st century demands from people skills and competence effectively to function at work and in free time. Education has to prepare labor for demand. Thus, the purpose of clever education consists in bringing up clever pupils for satisfaction requirements work and life in the 21st century. From here also the concept about Smart Learner (clever pupils (SmL)) is the persons trained in the conditions the smart university competent of the disciplines with competitive qualities in labor market follows. Based on China researches scientists [13], they allocated four levels of clever abilities which students have to seize to satisfy requirements in modern society.

1. Basic knowledge and main skills. The basic knowledge and the main skills relating to knowledge and skills of the main objects, such as STEM, reading, letter, art, etc. Possession of these main objects is important for student's success.

2. Comprehensive abilities. Comprehensive abilities are understood as abilities to critical thinking and the solution for real problems. These abilities allow the student to use the corresponding reasoning's and complex thinking in various difficult situations.

3. Individually experience. This ability demands that students seized information and technological literacy, creativity and innovative skills on personal experience.

4. Collective thinking. The mode work which demand communication and cooperation. Collective intelligence belongs to knowledge which is accumulated by group people to communication and collaboration.

Above-mentioned abilities are grouped in knowledge, skills, the relations and values. If the student seizes all these abilities, then he will be considered by right as "the clever pupil".

Scientists of the East Kazakhstan State University named after S. Amanzholov designed the transition to the university into the Smart-University model in the main areas:

- changing the organizational structure of the university, the network management and the formation the electronic network interaction system between the teacher and the student, including through the active use the Internet resources with the transition to process management and resource renewal;

- the use in the educational process innovative information and communication technologies that allow the transition from the traditional system to distance education for a flexible system in the formation of individualized

educational trajectories using educational content from the best world and domestic universities, which is in the public domain;

- the use of modern management and analytical information systems and related infrastructure in the management of the scientific and educational process, ensuring the implementation the ideas Industry 4.0.[14].

Currently in East Kazakhstan State University named after S. Amanzholov makes the transition from the classical model university to the model Smart-university. The basis for such a transition was the creation single information and educational space of the university on the basis digital technologies, i.e. high school environment.

Smart universities are the key to creating an intellectual nation; it is foundation for our country's smart cities, which will eventually create smart Kazakhstan.

### **Conclusion**

Today development innovative technologies leads to change in education that corresponds to transition to the fourth industrial revolution. Based on the international experience our foreign colleagues, this transition will lead to introduction of Smart industry. For successful introduction and function such processes as in the Republic of Kazakhstan, it is required to create a stable basis for successful SLE in educational institutions, and politicians and administrators to have to support SmT and encourage SmL for strengthening the principles and features the SmE. A key element for the concept SmU is smart learning, which is impossible without accumulated e-learning experience.

The main task for smart learning is to create conditions to obtaining new efficiency in the educational process. New efficiency is achieved by students studying in the university program, teachers and the university as a whole. The use of smart learning requires an integrated approach, including an organizational approach, technological and pedagogical. At the heart of smart learning is a strategic decision for the leadership to create and maintain conditions to the development of smart learning, which is ensured by the adoption a university strategy or roadmap. The technological approach should solve the problem of interaction participants in the educational process, both of them in the educational environment and beyond. Successful implementation and operation the smart universities require support from the state, which can lead to the expansion and prosperity the educational system in the Republic of Kazakhstan.

Also we reviewed the strategic management of universities, their competencies and missions.

The development strategy of the research activity in Narxoz is aimed at positioning the university as a Innovative Economic University, strengthening the scientific potential the University of Narchosis, occupying worthy places in world rankings, obtaining international accreditation, enhancing the research competence teaching staff and students, providing impact on solving social and economic

problems in our country and Central Asian countries through research and development.

Kazakh Ablai Khan University is a modern innovation-oriented university of internationally-adaptive type as a single scientific and educational complex that provides training for competitive high-quality specialists to ensure the multi-vector international cooperation of the country in implementing the development strategy of the Republic of Kazakhstan.

The Turan University being an innovative entrepreneurial university, will prepare specialists focused on entrepreneurship, innovation, able to adapt to changing socioeconomic conditions, and secure a leading place among domestic universities and competitive positions in the global market for educational services and research programs using innovative technologies in the learning process.

KazNMU named after Asfendiyarov being an innovative medical university participates in the formation a new generation of medical workers with a level professional training, technological skills and competitiveness that meet modern priorities and future challenges for Kazakhstan and world health in the 21st century.

It should be borne in mind that for the successful implementation innovatively progressive technologies in the education system of Kazakhstan, it is necessary to generalize the concepts of smart universities and smart education for the best functioning in various fields of activity and education.

Thus, the presence higher quality education is a necessary condition for the adaptation a young person to the solution a wide class of vital tasks. SMART education allows expanding the personal possibilities development in solving these problems in situations a changing world. It is this, in our opinion, which forms the creative potential to the future specialist, so necessary in modern conditions.

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## PROSPECTS OF DEVELOPMENT OF BUSINESS INCUBATORS AND THEIR ROLE IN PROTECTING THE RIGHTS OF ENTREPRENEURS IN THE REPUBLIC OF KAZAKHSTAN

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**Abstract.** The study showed that business incubators, being the key elements for the development and support of small business, are also an instrument of innovation and socio-economic policy. Accordingly, the further development of business incubation processes contributes to the development and strengthening of the national innovation system of Kazakhstan, which is a necessary factor in the development of an innovative economy. The study contains a theoretical and methodological rationale for the development of innovative companies in business incubators, the formation of a system for evaluating the effectiveness of the activity of an incubator, the development of tools for selecting residents of incubators, confirmed by approbation.

**Key words:** business incubator, entrepreneurship, entrepreneurial education, protection of the rights of entrepreneurs

One of the main strategic directions of social and economic policy pursued by the Government in the Republic of Kazakhstan is the development of small and medium-sized businesses. At the present stage of the economic development of the Republic of Kazakhstan, private business is playing an increasingly important role. In recent years, small business has developed dynamically in Kazakhstan, which is carried out by individuals and legal entities to make a profit at their own risk [1].

In 2014-2015, 1 trillion tenge has already been allocated for the development of small and medium businesses. The projects of the program «Nurly Zhol» - 2.7 trillion tenge. 2.7 trillion tenge allocated to Kazakhstan by international financial organizations [2].

At this time, the Government is showing interest in business incubation, as it is considered as a special way of developing small business. In order to effectively implement the Business Roadmap 2020 program, the Government develops a modernization strategy and tools used to support SMEs to further promote business incubators. The program of business incubator development in the Republic of Kazakhstan will be coordinated at the state level by the Committee for the Development of Entrepreneurship in order to create an effective cooperation network [3].

Such a network will ensure coordination of activities and the exchange of experience and mutual support. The process of creating incubators will be

conducted at the local level using the state budget funds, local budget funds, as well as company funds. The direct goal of the business incubator will be to support start-up companies and the establishment of a business before they achieve independent operation in the market after a period of incubation. The business incubator will provide the microenvironment for new companies in the following order:

The building, which provides companies with a certain level of space, in the form of modules that are easily converted in accordance with individual needs. This will meet the needs of the company at different stages of development.

Direct access to a wide range of services that support the creation and development of the company during the first years of its activity (incubation for 3 to 5 years). This will avoid excessive employment in the company and the purchase of all equipment, which will lead to a reduction and rationalization of the operating costs of small enterprises.

Liberal rental conditions that allow entrepreneurs to come to the incubator and leave it at a convenient time. This allows you to increase the mobility of the company.

The initiative to create a business incubator is consistent with the provisions of the Program «Business Road Map 2020». Within the framework of the Business Roadmap 2020 Program, there is an opportunity to finance the production infrastructure: for individual projects, as well as to organize industrial facilities. This program allows you to hold informational events, pre-incubation, professional development of entrepreneurs and staff. Additional opportunities will be created in the framework of the program of development of monotowns, which is being developed by the Government of the Republic of Kazakhstan [3].

Today, the youth of Kazakhstan seeks to contribute to the development of the country's economy. Many students seek to open their promising business, but not everyone has the opportunity or the means to accomplish their goal. Therefore, the creation of a business incubator can become a launching pad for youth entrepreneurship. For example, in Kyzylorda, at the ManshukMametovaHumanitarianCollege, with the support of the regional branch of the Damu Foundation, in March 2016, a business incubator was opened to teach students in entrepreneurship.

Together, the foundation, the regional Chamber of Entrepreneurs and the college create favorable conditions for youth entrepreneurship - from 18 to 29 years.

During the year, business training, meetings with successful entrepreneurs, business games and other activities aimed at increasing the entrepreneurial potential of students will be held on the basis of a business incubator with the support of Damu. Young people have the opportunity to make, discuss and translate business ideas into reality. The main goal of the incubator is to form a kind of education center and platform to support student entrepreneurship.

Also, business incubators are considered as an important element of the infrastructure necessary to support the development and commercialization of new production technologies, complementing the actions of other institutions dealing with intellectual property rights and the preparation of patents, but at the same time they are an instrument of economic, social, structural and innovative politicians [4, p. 448].

Creating favorable conditions for start-up entrepreneurs, where newly created enterprises gain experience and receive assistance for further growth, strengthening their position in the market is the main goal of creating a business incubator. After reaching a certain level of development, the firm leaves the business incubator and begins an independent existence, already having considerable experience and potential, which allow it not only to avoid bankruptcy, but also to grow further.

Now this form of support for small businesses is particularly relevant due to the specific conditions for business development (inflation, gaps in legislation, etc.). The role of the business incubator in the creation of new small enterprises consists not only in the direct incubation of start-ups, but also in the fact that due to the profiling of the business incubator and the competitive selection process of enterprises for placement in its premises, local governments can provide support those enterprises whose activities correspond to the priorities of the development of the territory.

The main task of the business incubator is to promote the successful development of firms. Entrepreneurs working in a business incubator create new jobs, develop technologies and thereby strengthen the local and national economy [5, p.24].

According to 2005 data, 51 business incubators operated in Kazakhstan. However, this figure also included small business centers and consulting companies, as well as technology parks in the cities of Almaty, Aktobe, Kyzylorda, Karaganda, Priozersk, Uralsk and Oskemen. According to the presentation of Vice-President of the JSC «Economic Research Institute» A.N. Toxanova, in 2011, 21 business incubators and 10 technology parks operated in Kazakhstan. The overwhelming majority of business incubators state that they provide services for small businesses, however, according to a study in 2011, their main activity is related to the rental of production and service space, with very limited participation in the operation of «business incubators».

In other words, most business incubators are simply focused on commercial real estate, rather than incubation and business support. During the meetings of the Macroeconomic Project in February and March 2012, the name of two incubators, namely «Sodbi» in Shymkent and a business incubator in Atyrau, were often mentioned. However, they do not incubate start-up companies, as they are self-financing organizations and mainly provide services for companies that can afford to pay. This is the main problem of opening and further development of business incubators in the Republic of Kazakhstan [4, p.13].

Today, there are 8 regional technology parks in the country, the main activity of which is technological business incubation. The business incubation program has been implemented by the Ministry of Investment and Development of the Republic of Kazakhstan since 2010. If we give statistics, in 2010-2015, about 116 projects were implemented under this program for a total amount of funding of 975 million tenge.

The development of small business is one of the priorities of state policy aimed at the growth of the Kazakhstani economy.

The legislation of the Republic of Kazakhstan on entrepreneurship is based on the Constitution of the Republic of Kazakhstan and consists of the Civil Code, the Law on State Support for Small Business and other regulatory legal acts of the Republic of Kazakhstan.

The main objectives of state regulation of private entrepreneurship are the creation of favorable conditions for the development of private entrepreneurship and the protection of state interests and consumer rights by introducing the administration of private entrepreneurship.

The main principles of state regulation of private entrepreneurship are:

- guaranteeing the freedom of private enterprise and ensuring its protection and support;

- the equality of all subjects of private entrepreneurship in the implementation of entrepreneurial activities;

- the guarantee of the inviolability and protection of private property (property of private entrepreneurs);

- the priority of small business development in the Republic of Kazakhstan;

- participation of private entrepreneurs in the examination of draft regulatory acts affecting the interests of private entrepreneurship.

Draft regulations affecting the interests of private businesses are subject to mandatory publication (distribution) in the media, including WEB-sites in public telecommunications networks, before they are reviewed by the relevant body or at a meeting of the expert council. A legal entity that is a subject of private entrepreneurship can be created only in the organizational and legal form provided for by the civil legislation of the Republic of Kazakhstan [5, p.96].

The subjects of private entrepreneurship can be attributed to:

According to the results of the study, international experience was summarized, the main directions and methods of state support for business incubation were determined. World experience shows that without the creation and development of small enterprises, the market cannot develop. The competitive environment necessary for a market economy is developed through the creation of favorable conditions for the development of small business. Business incubators are an element of support and development of small business. Understanding one of the key roles of small and medium businesses in the economy causes a growing attention to this sector and pushes the governments of different countries to

implement public policy, developing programs to support small and medium businesses. The main elements in the system of such support are business incubators. The main task of the business incubator is to create successfully operating small companies, or to reconstruct existing ones so that, after going through the support program, they will gain financial and organizational independence and «grow». An analysis of foreign experience in supporting small enterprises shows that business incubators are responsible and exercise ongoing control over the state of business and the performance of small enterprises. Also business incubators provide their services to a number of public organizations that provide funding for projects. In addition, since incubators work closely with small enterprises and have a direct opportunity to analyze their needs, they can communicate these needs to local and regional authorities and official services in order to timely meet the needs of small enterprises at the level of authorities. Business incubators provide an opportunity for small enterprises to participate in regional, national and local development programs, develop entrepreneurial skills and search for the most promising projects and innovations. The conclusions are aimed at the results of state support for business incubation, which will contribute to the development of entrepreneurial initiative and an increase in the number of business entities in the regions [6, p.55].

According to the Global Entrepreneurship Monitoring (GEM) study conducted by Kauffman Center for Entrepreneurial Leadership, Babson College and London Business School, factors that influence different levels of entrepreneurship are: perceptions of opportunities:

- entrepreneurial culture;
- perception of various ways of creating wealth;
- business policy and infrastructure;
- investment in higher education;
- demography.

- since their business usually start at the age of 25 to 34 years. National, social, political and economic forces and structures of support for entrepreneurship influence the dynamics of business and the way enterprises are constantly created and transformed. One of the most effective measures to support enterprises in the starting period is business incubation. The first business incubators appeared in the 50s in the UK. After 1983, business incubators spread widely in the United States. In 1987, their numbers increased from a few dozen to 170 incubators located in 28 states. Then the number of business incubators in the United States began to grow rapidly, and by the beginning of the new millennium, the number reached 575. Later, they merged into the National Association of Business Incubators. «Incubation» means the formation of conditions that favor and promote the development of start-up companies. Business Incubator is a balanced program of comprehensive assistance to newly created enterprises, which is focused on their support and the creation of favorable conditions for their development. The main

task of the business incubator is to help entrepreneurs opening a new business, especially at the initial stage. The Working Group on the Development of Industry and Entrepreneurship of the United Nations Economic Commission for Europe recommends that incubation is the most effective and efficient way to support small business [7, p.85].

The advantages of incubation. The benefits of a well-managed incubator can be varied for stakeholders: For tenants, as it increases the chances of success, increases confidence, helps improve skills, creates synergies between client-firms, facilitates access to mentors, information and start-up capital. For the government, since the incubator helps overcome market failures, promotes regional development, creates jobs, increases incomes and taxes, and becomes a demonstration of political commitment for small businesses, For research institutes and universities, it helps to strengthen the interaction between university research and industry, promotes the commercialization of research and provides opportunities for faculties / graduates to better use their opportunities. For business: incubator can develop opportunities for the acquisition of innovation, supply chain management and spin-offs, and helps fulfill our social responsibilities. For the local community: creating self-esteem and entrepreneurial culture, as well as raising local incomes, as the majority of business graduates remain in the area. For the international community: it generates opportunities for trade and technology transfer between client companies and their incubators, a better understanding of business culture, and facilitating the exchange of experience through associations and unions. These desired results, often not achieved due to poor management and other factors. Obvious results, however, prove that in many situations the advantages mentioned above are realizable and justify government subsidies [7, p.96].

Government support for incubators makes sense under certain conditions:

- when it helps to overcome market restrictions, improves access to information, finance and work areas that are not freely available;
- enhances the role of the state in providing public goods - knowledge, research, infrastructure;
- becomes an indicator of the state's commitment to creating good jobs (directly, indirectly and through multiplier effects),
- stimulates innovation and entrepreneurship as the main forces of the new economy;
- contributes to the culture of entrepreneurship and technology commercialization, risks, teamwork, exchange;
- reduces the costs and consequences of bankruptcies, and facilitates the transition from a command to a market economy;
- supports backward areas (urban and rural), youth and women's entrepreneurship, and in the long term contributes to employment;

- helps to develop synergies between universities, research, government and civil society;

- when support is limited to initiating the creation (of an incubator), rather than the constant use of subsidies;

- creates taxes paid by corporations and workers, as a rule, exceeding subsidies, and raises income, sales and exports for the community and the country;

- when there is customer satisfaction with the services received, basic prices and access to the market, as well as population satisfaction with benefits for the community, are preserved [8, p.36].

At the beginning of the third millennium in the world there were more than three thousand business incubators. As a tool to support small and medium-sized businesses, including in the innovation sphere, these structures are widely used in different countries of the world. However, the economic conditions of development determine the different scales of their distribution in different countries. It was estimated that almost 7,000 business incubators of various types were in the world by 2006. Of these, approximately 1,400 were in North America (1,115 in the United States, 191 in Mexico and 120 in Canada), 1,000 in Europe (including 370 in Germany), 400 in China, 355 in Korea, 265 in Japan, and 220 in Great Britain. Many business incubators in developed and developing countries operate as part of a local government or university. This form is sometimes convenient, but not always effective.

Programs that receive government support should be required to submit annual reports to the source of funding so that funders can track progress towards achieving funding goals. These reports should include periodic independent audits of program budgets. By reviewing this data annually, government agencies can continuously evaluate public investment in business incubators, making sure that funded programs implement best practices and contribute to client success and program success, and identify new trends that could affect program implementation. After the programs that have received state support collect adequate data and implement best practices, other additional policies may be considered. Such additional measures may include providing initial funding for clients, creating appropriate space for graduates, offering tax incentives for client firms, holding competitions for the best incubation programs and incubator clients, supporting the development of a provider network of business services, and encouraging higher education institutions. education to support business incubation programs [8, p.74].

Business incubators should become a tool for the growth of effective business development as the regulatory framework and conditions for doing business in Kazakhstan improve.

In this regard, it is necessary to adopt systematic measures to support private entrepreneurship, which will include, but not limited to, improving access to financing, providing the necessary infrastructure, helping to increase competence,

obtaining consulting support and attracting partners to jointly implement entrepreneurial initiatives.

Various programs should be implemented for the prospective development of business incubators, which will take three to four years to achieve certain goals for the possibility of opening a business incubator and their distribution throughout the country. However, this will be possible if the existing ways of doing business in business incubators are changed, based on the experience gained by experts in Kazakhstan and abroad.

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## EXTERNAL CRITERIA FOR DETERMINING THE LEVEL OF ECONOMIC SECURITY OF SMALL AND MEDIUM BUSINESS

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**Abstract.** It is considered in this article the small and medium-sized business, its role in society and the main characteristics of the various forms of business, their target orientation and interaction with the territorial market. It is offered the indicators of evaluation of the level of economic security of the external environment of small and medium-sized business-structures, such as interaction with regional and local authorities, interaction with partners in the business network, interaction with society.

**Keywords:** economic security, small and medium-sized business, external criteria, indicators, economic security evaluation, security level, interaction with regional and local authorities, interaction with partners in the business network, interaction with society.

Small and medium-sized business structures are the priority directions of the state policy aimed at the progressive growth of the country's economy. The crisis of the world economy provoked unstable dynamics of growth of business structures and employees [1]. However, the development of small and medium-sized business over the past five years has accelerated and is carried out more intensively, which is associated with the realization of state programs and subsidies [2].

State regulation of business activity is aimed at creating a favorable business environment, at protecting the interests of the state and consumers. The legislation of the Republic of Kazakhstan on private entrepreneurship is based on the Constitution of the Republic of Kazakhstan and consists of the Civil code, the Entrepreneurial code, the Law on state support of small business and other regulatory legal acts of the Republic of Kazakhstan [3, 4, 5].

Having considered the main characteristics of the activity of various forms of business, their target orientation and interaction with the territorial market, the following differences are identified [6]:

- small business entities are companies that, due to limited resources, focus on a strictly defined audience of customers and covers a small market territory, most often a city, district, region, highly dependent on the market situation;
- companies of medium-sized business are that work with a large audience, cover entire cities and even regions, have a significant annual income, extensive and diverse resources for activity. However, the market situation can have an impact on their activity;
- big business by its activity covers the whole country, several countries, it is

known on the global market. It doesn't depend on market conditions because of its large resources; moreover, it can have an impact because of its high market share.

It is obvious that the definition of the level of economic security of small and medium-sized business structures requires scientifically developed tools. It is talking about the criteria and adequate systems of indicators that take into account the specifics of the enterprise and the current market conjuncture in which it is presented [7]. For a long time in the scientific literature devoted to the methods of determining the level of economic security of small and medium-sized forms of management, financial stability, the level of profitability, the use of fixed assets and personnel policy have traditionally been used as criteria. In this case, the economic security of the economic entity loses its complexity, being reduced in fact to the internal corporate balance through the system update of economic units. What to do with the threats arising from the outside, how to react and defend against them, remains unclear. In this connection, it is necessary to determine indicators that appropriate to external criteria [8].

The group of external criteria previously included only such a criterion as competitiveness, but this wasn't enough, and therefore it is added other criteria and indicators for evaluation of the external environment, such as:

- interaction with regional and local authorities;
- interaction with partners in the business network;
- interaction with society.

Table 1 – Indicators for assessing the economic security of small and medium – sized business-structures

| Criterion  | Indicators  |
|--|---|
| 1  | 2   |
| Level of interaction with regional and local authorities | Frequency of participation in programs on concessional financing  |
|  | Participation in public procurement (the number of executed lots) |
|  | Frequency of participation in charitable and sponsorship activity |
| Level of interaction with partners                       | Network density   |
|  | The degree of centralization of the network                       |
|  | Homogeneity (homogeneity) of the network                          |
|  | The tightness of the network                                      |
|  | The power of networking   |
|  | Network isolation   |
| Level of interaction with                                | The sustainability of the network                                 |
|  | Dynamics of protest activity of the population of the             |

|                               |   |
|-------------------------------|---|
| regional society              | region  |
|                               | Dynamics of criminal activity in the region             |
|                               | Sex and age composition of the population of the region |
|                               | Level of education of the population in the country     |
|                               | The attitude of the local population to the local brand |
|                               | Rate of inflation                                       |
|                               | Unemployment rate                                       |
|                               | Income level of the population                          |
| Note - compiled by the author |   |

The level of economic security on the criterion of interaction with local authorities of small and medium-sized business-structures to some extent characterize indicators such as the participation of the latter in various government programs on support business, participation in public procurement in order to expand the market sale, as well as participation in charitable and sponsorship activity, etc.

Less studied today criterion in ensuring economic security is the interaction with partners in the business network. It is presented in the foreign and domestic literature the characteristics of the network, which is most effective to evaluate the level of interaction [9]. These characteristics include: network density, it is analyzed the number of agents in the network and the relationships between them. The degree of centralization of the network analyzes how far the agents of the network cluster around one company. Homogeneity of the network reveals what is the level of homogeneous have agents in the network, the strength of business connections analyzes the level of dependence of agents on this connection. The closeness of connections reveals the constancy and frequency of interaction with the same partner. The isolation of connections allows to reveal the degree of dependence of partners on each other. Connections stability analyzes the duration of contacts and the renewability of connections in the network, the less frequent the changes of agents in the network, the more reliable and stable the network. The development of network interaction can reduce external threats and ensure a high level of economic security of the business entity.

The next external criterion in determining the level of economic security of subjects of medium and small forms of management is the interaction with the regional society (population). The calculation of indicators adequate to this criterion completes the formation of information and analytical base for the analysis of the problem of economic security of enterprises on the basis of both functional and institutional approach (business - state – society). Among the most significant indicators on the criterion of interaction with the regional community should be called the dynamics of protest and criminal activity of the population of

the region, the sex and age composition of the population of the region and its level of education, the attitude of the local population to the local brand, as well as the level of inflation and unemployment [10].

Analysis of the methodology for assessing the economic security of small and medium-sized business-structures showed that for the effective evaluation of the level of economic security it is necessary to determine indicators that reflect the state of the business entity and the business environment. Analysis of methodical approaches to the formation of criteria and indicators for determining the level of economic security contributed to the formation of 3 external criteria, which contain 18 indicators.

Thus, the process of ensuring security needs tools that allow to determine systematically and comprehensively the level of security. Therefore, the proposed criteria and indicators give opportunity to evaluate the level of economic security.

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## INTERACTION OF EDUCATION AND BUSINESS AS A FACTOR OF SUSTAINABLE ECONOMIC DEVELOPMENT.

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**Abstract.** The article is dedicated to the issues of interaction between universities and businesses in the framework of implementing social responsibility of enterprises. The necessity of cooperation between universities and companies was reviewed and substantiated. Foreign and domestic experience of interaction between university and business was analyzed, main problems and prospects of cooperation of the university with business structures were highlighted, solutions were proposed. In Kazakhstan, there is a positive trend in participation of industrial companies in educational process and cooperation with universities, mainly among large companies, but many forms of mutually beneficial cooperation are still not implemented. Interaction of business with higher professional education, their integration can significantly improve the efficiency of economic, industrial, social, research activities of enterprises, but this requires a number of institutional, economic, legislative changes, as well as development of a number of measures to encourage cooperation between enterprises and universities

**Key words:** business, higher education, integration, interaction, cooperation patterns, sustainable development, corporate social responsibility.

Cooperation of education and business was and remains one of the key drivers for developing human resource potential in regional economy. It is known that the state, which promotes connections between businesses, universities and governmental structures, obtains competitive advantage due to fast transfer of new knowledge, created at implementation of innovative products, companies and R&D organizations increase their chances for quicker and more effective development, using new opportunities [1].

The growing role of businesses' responsibility in ensuring sustainable competitive advantages of national economy is associated with social orientation of market economy at the post-industrial development stage. Scientific and technical progress and rapid updating of knowledge, which serve as a basis for new, more modern and productive technologies, leads to the intellectualization of production and require increase in society's expenses for training highly skilled workforce with creative and professional attitude to the results of work and decisions. This is especially true for industrial regions. Today, there is an urgent need to train technicians who are able to design and maintain complex equipment.

The training of specialists in fairly narrow areas and specialties no longer reflects current demands of the real economy sector, where demand structure changes dynamically, with a need for professional mobility of specialists with good fundamental training [2].

Main factors and conditions, which ensure actuality of raised problem, may include:

- dynamic changes of economic situation;
- changes in employers' HR policy;
- contradictions between the need for cooperation and non-readiness to cooperate;
- absence of forms and methods for effective interaction in the state-university-business pattern;
- increasing level of labor intellectualization;
- demand for specialists with professional mobility and good fundamental training [3].

Thus, one of the most important areas of corporate social responsibility is the interaction of science and education with business structures. This is explained by the fact that intellectual environment of universities is able to dynamically respond to constantly changing conditions.

Interacting at the institutional level, universities and business structures contribute to optimizing each other's actions in various directions (economic, industrial, socio-cultural, educational, etc.), thus achieving a synergistic effect.

Economic effect lies in reduction of financial expenses, related to providing personnel for regional enterprises. It is obvious that sustainable development of any company is impossible without a reliable personnel reserve. In production activities, the effect is conditioned by targeted training of specialists, from worker to manager, in accordance with professional activities. In this case, role of education is growing, combining university training in higher education, as well as professional skills in specific enterprises. The partnership in scientific field enables implementation of industrial projects, management of enterprises. The social effect is associated with provision of popular educational services, necessary for the economy.

The mechanisms of interaction between university and business structures are in many ways similar to market economy mechanisms: universities respond by the offer of graduates, research and organizational work, to the corresponding demand generated by the national economy and business structures [4].

The following forms of interaction between business and universities have become most common throughout the world:

- integrated production and educational programs;
- organization of joint projects,
- technology parks, business incubators, scientific and practical laboratories for implementation of full innovative development cycle;

- internships, targeted vocational training;
- creation of subsidiaries of corporations;
- transfer of knowledge and technology

The governments of United States, European countries, Asian region and Latin America allocate significant funds to universities in order to create economic development drivers on their basis through their interaction with the business community. The most famous examples of such cooperation include the Massachusetts Institute of Technology (MIT). Total revenues of companies founded by graduates of this institute may amount to the eleventh largest economy in the world [5], as well as National University of Singapore (NUS, National University of Singapore, NUS). The university receives more than 250 patents annually, more than a third of its income comes from interaction with representatives of business community [7].

Google contributes to training of qualified IT-personnel. The company has developed specialized certification programs in computer science and IT for 25 public colleges in the USA, Southeastern University and University of Illinois in Springfield. In the process of developing the program, Google collaborated with companies such as Bank of America, Intel, Hulu, Walmart, etc. Due to this, the program gives students the best preparation for employment in the IT industry, with an average salary of \$ 52,000. Programs developed by Google are also offered at Duke University.

In addition, Google has become the first non-European partner of the Technical University of Munich. The company and the university signed an agreement on cooperation in the development of robotics and artificial intelligence. This will lead to development of new research and programs at the university. Google has also invested over \$ 1 million in training young researchers.

Australian universities are proud of their extensive partnership with Microsoft, company's partnership with Griffith University is particularly noteworthy. As part of this partnership, the company modernizes the university, its curriculum, equipment and facilities so that they are in line with modern technical progress and the realities of digital education. From online learning and digital teaching formats to new courses in the most relevant areas - Microsoft will do everything to ensure that university students are ready for successful work over the next 40 years of technical development [8].

Amazon is actively working to improve and develop the campuses of many American universities. In particular, the company sponsors campuses, offers students modern equipment and affordable teaching materials at universities such as University of Massachusetts at Amherst, Purdue University and University of California at Davis [9].

Besides, Amazon is working with the Virginia Polytechnic Institute on an ambitious project to create a unique Campus of Technical Innovation in Virginia.

More than 500 master's degree programs, and major state-of-the-art researches in computer science and software engineering will be offered at this campus [10].

A study, conducted at 166 universities in the UK revealed an economic return of £ 59 billion with of multiplicative effect. Thus, contribution of universities to economy exceeds economic effect in pharmaceutical, aviation and advertising industries. The return, per every million pounds invested by the UK Treasury in higher education was 1.3 million pounds in the form of investments in other sectors of the country's economy [11].

Considering the Kazakhstani practice of interaction between universities and businesses, it is necessary to note that today, universities are just beginning the way to capitalizing their knowledge, learning to commercialize results obtained in the framework of interaction with business community and state, and to manage intellectual property as efficiently as possible. Universities are currently ready to participate in the process only as developers or performers.

One of the most successful domestic cooperation examples is the partnership of the Eurasian Group with universities in the country.

The Eurasian Group (ERG) manages the following ERG production assets in the Republic of Kazakhstan: TNK Kazchrome, Sokolovsko-Sarbai Mining Production Association (SSMPA), Aluminum of Kazakhstan, Kazakhstan Electrolysis Plant (KEP), Eurasian Energy Corporation (EEC), Shubarkol Komir , AO 3-Energoortalyk and TransKom LLP - large enterprises of the country, which together make a significant contribution to the economy of Kazakhstan.

In the process of implementing corporate social responsibility, ERG regularly cooperates with leading technical universities in the following areas:

1. Signing memorandums of cooperation with universities in the regions, where it operates.

Together with Pavlodar State University and Aksu Akimat, a memorandum of mutual cooperation was signed. The memorandum provides for joint research and development activities, organization of workshops and special courses, possibility of professional development for teachers, and social partnership [12].

2. Conducting conferences to transfer knowledge and innovations.

30 students from Kazakhstani universities located in the regions, where Eurasian Resource Group (ERG) operates, took part in Scientific and Technical Conference. Holding such an event, according to the Company, will allow creating discussion between future specialists, universities and businesses. Main objectives were to search for perspective personnel, as well as to ensure inflow of new ideas and research results to improve production processes. Participants were introduced to "Future with ERG" program, in which the Group interacts with students and graduates, about the opportunities for staff development and about active work of the company's youth council.

As part of the "Future with ERG" program, ERG Day was held at 23 universities and colleges in the country, as well as an open day at all Group

enterprises. As well as the Scientific-Technical conference, the events are aimed at attracting talented young people to popular manufacturing specialties. More than 2,000 students from the “native” regions of the Eurasian Resource Group visited them.

3. Internships. Advantages of “Future with ERG” program are: paid internship / probation; assignment of mentor / supervisor; employment; development of a career plan and enrollment in personnel reserve.

4. Financing and creation of R&D laboratories for implementing full innovative development cycle [13].

A unique modular training ground for works at height in centralized repair shop was created on the basis of the Pavlodar aluminum plant. The design of training ground and its elements are as close as possible to working, allowing effective integration of theoretical knowledge into practice.

5. Another effective tool for cooperation with universities of the country is job fairs held by educational institutions for their graduates. The Company participated in International World Skills Championships and Kazakhstani Hackatons – competition of ideas for solving business cases, the winners of which had internships and probations at Group enterprises. Best of them got jobs [14].

Nevertheless, it should be noted that such successful examples are typical only for large enterprises. Such forms of cooperation as participation of companies in development of curricula, consultancy and introduction of university scientists, and so on, often used in countries of continental Europe, are still not implemented. One of the reasons for insufficient level of cooperation are:

- first of all, poorly developed legislative framework - lack of substantial preferences for business;
- limited resources of businesses;
- financial risks, in view of long implementation period;
- lack of state support measures and incentives for university-enterprise cooperation;
- strict reporting standards for universities;
- business is not ready to change methodology of market behavior, conducting researches and analysis of information;
- financial support increases the risk of losing intellectual independence;
- bureaucracy from universities side; needs of businesses
- interests of enterprises are not placed on par with the mission and strategy of the university;
- there is a time gap in speed of functioning;
- not all universities have required competencies or infrastructure for business needs;
- activity of research groups in universities and technology centers is far from business needs [15].

For companies, the most important goal is obtaining patents for commercial operation, while priority for universities is publication of research results.

It is possible to distinguish some recommendations for further development of interaction between business and universities:

1. to ensure, on a nationwide scale, an effective relationship between the educational market and the labor market;

2. to develop and implement a system of benefits for business entities working with universities in the framework of research and development programs;

3. develop a system of measures to stimulate the activities of enterprises involved in the professional development of young professionals;

4. to create centralized information system providing employment for graduates;

5. Universities should be tracking new technologies and new trends in relevant areas of interest for employers;

6. develop a dialogue between universities and employers to increase mutual trust, improve mutual understanding in setting goals, planning horizons [16].

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## TEACHING BIOPHYSICS BY USING INNOVATIVE TEACHNOLOGIES

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**Abstract.** The article provides information on the teaching of Biophysics in the field of medicine through the implementing of modern educational technologies. The role of the teacher in the process of teaching Biophysics is changing, providing information on modern pedagogical technologies in the sphere of Biophysics in medicine, so today the university teacher is not always the main source of information, they direct students' thinking to knowledge using various information and communication technologies. This given article outlines the optimal use of modern pedagogical technologies in the educational process of Biophysics in higher medical institutions. Additionally, article deals with the development of Biophysics and the development of students' knowledge through the use of various innovative technologies in the process of medical education.

**Keywords:** biophysics, medicine, innovation, information and communication technologies, medical equipment.

In today's world, physics and medicine are scientific directions that complement and develop each other. Medical biophysics is recognized as the science that based future doctors' professional training according to medical equipment [1].

Biophysics is based on the early development theory. Therefore, the relevancy of the patterns in physics and chemistry for molecular, membrane and cellular interpretations of biological phenomena in the living organism allowed them to be defined in terms of physical, chemical, and biological regularities in the microorganisms, populations, biocenotic, and in biosphere levels [2].

Biophysics has its own patterns and methods even though it is in the strong correlation with other natural sciences. The development of biophysical theory and its introduction into biology and medicine have been influenced by the creation of theoretical bases in biological sciences. Biophysics is recognized as the science of the 20th century. However, it cannot be said that until the twentieth century the aims of this science are not reached. This is evidenced by the many discoveries made by plenty of scientists in the 20th century and their research. One of them, Maxwell's experiments on color theory, showed that he had different colors using an dynamical top, while German physiologist Helmholtz discovered the velocity of nerve pulsing. The Dutch physiologist Einthoven, the founder of electrocardiography, made the heartbeat recorder and used it for the first time for diagnostic purposes. Known physiologist Sechenov by researching the dynamics of

breathing discovered the patterns of melting gases in biological solutions. Here are some more examples. At present, biophysics has been transformed into fundamental issues such as inheritance and variation, ontogenesis, phylogenesis, metabolism and bioenergy, except the physical properties of the organism and its impact on physical phenomena. Recently, scientists have focused on biophysics. Its main reason is the widespread use of the achievements of physics in biology and medicine. There is an important role of domestic scientists such as Inyushin V.M, Tuleukhanov S.T and Abdrakhitova A.K on the development of biophysical research in Kazakhstan. Currently, the Kazakh Research Institute of Biophysics has been established by the Kazakh Research Institute of Oncology and Radiology (KazRIOR), Institute of Botany and Phytotherapy (IBPh), Closed Joint Stock Company "Biogen", Al-Farabi Kazakh National University (KazNU). Kazakh National Medical University named after Asfendiyarov (KazNMU). The ideas and methods of biophysics are not only widely used in the macromolecular and cellular processes of biological processes, but also spread in populational degree.

Methods used in biophysics include various optical methods, spectroscopy, electrometric methods, methods of microelectronic techniques, chemiluminescence, laser spectroscopy, targeted atoms [3].

One of the most important issues in the education system in developed countries is the informatization of education, it means the use of information technology in the learning process. Nowadays, in the education system of the country, it is known that the creation of an information environment in the innovation sphere is a topical issue. [4].

It is important to expand the educational space to new requirements in the context of the growing role of human resources in education as a criterion of political and economic development in the field of education from the point of view of expanding the information space and joining the world community.

For modern pedagogical specialists, the main task of our time is not only the constant professional development of the teacher, but also psychological, political, economic and information literacy and historical knowledge. Today's teacher should work on improving the knowledge of students using innovative pedagogical technologies. In this regard, one of the most commonly used concepts that we use later is innovation. "Innovation" is a new outcome that has been achieved in reaching the specific goals [6, p. 7].

Understanding of modern innovative pedagogical technologies and wide use of knowledge in the field of education, especially in higher educational institutions, is the main condition for increasing students' knowledge, as well as the qualifications of young specialists. Overall innovation is recognized as a key factor in improving the quality of education.

The effectiveness of innovative technologies:

1) it identifies the process of learning innovative technologies and innovations in education, which is acquired in everyday life through television or the Internet and opens the way to a new world.

2) teaches a student to adapt to innovations and intelligence, to explain and express their views and opinions.

3) innovative methods are active teaching methods, which means that 80% of theoretical knowledge and 90% of practical knowledge is stored in student's memory by this method.

Today quality of education in each educational institution unsatisfactory; inefficiency of results of reforms in education; insignificance at increase in number of documents; lack of skills of self-education at students; there is not enough general creativity of students and teachers. The only way to solve this problem - to introduce the latest innovative approaches in educational process, to induce each pupil to training, to increase his motivation to study and to work independently. Thanks to the new innovative technologies directed to improvement of quality of education in researches and the analysis it is possible to draw the following conclusions: -

Today quality of education in each educational institution is unsatisfactory; inefficiency of results of reforms in education; insignificance with an increase in the number of documents; lack of students' self-education skills; there is not enough general creativity of students and teachers. The only way to solve this problem - to introduce the latest innovative approaches and methods in learning process, to encourage each student to learn, increase his motivation to study and work independently. Thanks to the new innovative technologies directed to improvement of quality of education in researches and the analysis it is possible to draw the following conclusions:

- improving the quality of student learning, teacher's professional competence, ability to apply various innovative technologies in the learning process and its results;

- systematic and targeted use of innovative technologies in education will allow to reach great achievements;

- the introduction of new innovative educational technologies is often incompatible with the modern requirements of the material and technical base of each educational institution, the lack or low level of knowledge of the staff is also problematic.

Qualitative education of the younger generation depends on the introduction and use of innovative technologies in the learning process of educational institutions. Therefore, the main task of each teacher is to research, implement and effectively use innovative educational technologies, not lagging behind scientific and technological progress.

All teachers are well aware that innovative training manuals are important for implementing innovative educational technologies into the learning process.

One such tool is e-learning. Using electronic textbooks, students can improve their knowledge of both subject and computer skills through electronic textbooks. With this textbook, students will have the opportunity to work independently and experience their theoretical knowledge in practice, which allows them to achieve great success through the use of electronic textbooks in the education system.

With regard to contemporary medical higher education, it is essential to train future professionals who is ready to master new knowledge, accustomed to multifaceted activities, and adapted to new requirements quickly, as well as to prepare them for a competitive environment that is fully fulfill to modern requirements [8]. In this regard, it is essential to improve the quality and level of diagnostic, therapeutic and clinical research conducted by future doctors in the practical laboratory, and also to enhance the quality of professional training in this area.

In the modern world, special medical devices are used in various fields in the health-care sector (such as therapy, surgery, gynecology, oncology, etc.), so future doctors cannot be treated separately from medical equipment. Aware of the availability of medical equipment and the correct relationship between medical devices and physical factors during diagnostic and treatment activities in the field of medical education, the ability of future doctors to improve their skills, ability to work with medical equipment plays an important role in enhancing cognitive functions. It should also be borne in mind that every student works with many medical devices based on physical phenomena in medicine (mechanical phenomena, oscillations and currents, molecular, electric field and electric current, magnetic field, electromagnetic oscillations and waves, optics, laser radiation).

The main purpose of teaching biophysics at medical universities is to teach future doctors how physiological processes are performed in the human body, and to use physical patterns and phenomena in medicine, such as diagnostics and the optimal use of therapy. In this regard, students of medical universities oblige to look for new ways of teaching the characteristics of medical equipment and practice in the field of professional training.

The content and purpose of vocational education in modern medical institutions of higher education is to demonstrate the results of the work of the teacher, as well as the nature and content of the work and how to implement them. Accordingly, it is necessary to identify indicators characterizing the ability of students to conduct diagnostic, therapeutic and laboratory tests. To this end, students can choose to use a medical device in accordance with their application; registration and registration of its influence; know the physical nature of the diagnostic or therapeutic effect of the physical factor used in the medical device; knowledge of the harmful effects of medical equipment on the patient and the method of its removal; Information on the development of modern medical equipment, etc. can be achieved through the use of innovative educational technologies and tools.

In conclusion, I note that virtual biophysics is a unique innovative approach in the system of medical education. 90% of the information we receive and perceive by vision, so the learning process should be carried out using visual aids. This means not only a static picture that reflects any physical phenomenon, but can also be seen in virtual motion. This resource allows teachers to teach basic patterns easily and freely, the basics of biophysics, as well as to conduct online laboratory work in many sections of the general education program. It is necessary to create an environment for the effective use of information and communication technologies (ICT) over the Internet using interactive whiteboards, projectors, computers, portable devices and tablets and smartphones for teaching biophysics. Using an innovative curriculum in the form of a playlist, with professionally developed multimedia concepts, visual materials and virtual solutions, the learning process can be made more understandable and meaningful. The complex structure allows you to make a new theme interesting and understandable, to perform various practical tasks, consolidate the knowledge gained, organize various tasks, and students' achievements. Also with the help of illustrations, videos, clear fonts, animated descriptions and much more you can memorize information easily. Explaining examples and concepts from real life will be easy and efficient. New models of the aforementioned training will allow students to participate in the daily learning process if, for whatever reason, they are unable to continue their basic education. Of course, modern online education has a great future for most of the younger generation.

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# OPPORTUNITIES OF "TRIPLE HELIX" IMPLEMENTATION IN UZBEKISTAN

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## **Introduction**

The Research Center "Scientific Bases and Problems of Development of Economy of Uzbekistan" under the Tashkent State University of Economics was established in 2013 on the base of the Institute of Economy of the Academy of Sciences of the Republic of Uzbekistan. Such decision was based on understanding of need of approximation of academic science with the real economy while bringing in broad range of vigorous young specialists.

## **Triple helix definition: Academia / Business / Government**

It should be noted that the concept of "Triple helix" is becoming increasingly widespread among specialists in Uzbekistan. Previously unfamiliar idea of integrated development of academia (research and education), business sector (real economy, industries) with the support of government bodies (public sector, regulatory environment), proven by its results, gets recognized as a model of interaction even among the outright skeptics.

The reason is high efficiency achieved through the coordinated efforts and carried out simultaneously at different levels, having mutual reinforcing and resonant impulse effect. Such combination determines the most optimal conditions for synthesis and effective interaction, innovative models development and their implementation in the real sector of the economy.

It provides an opportunity to attract and motivate a broad range of researchers and students, increasing their entrepreneurial activity, ultimately leading to the creation of jobs and at the same time increasing the national wealth of nations resorting to active use of such economic development instrument.

## **Organization system – reforms in science, education and business environment, impacting the integration processes**

Uzbekistan today is actively promoting reforms in all areas to ensure country's rapid and qualitative leap into the world's developing economies leading top. Key stakeholders' determination to strengthen the country's position in the international rankings and indices, including the Global Index of Innovation Development reaffirms the relevance of this thesis.

The efficiency of this process requires the priorities of the real sector of the economy and the interests of business to be seamlessly integrated in the course of reforms. Same also goes to all areas of science (academic, applied) and education. We believe that focused steps along this path will not be possible without an increased coordination level of academia and business society. Besides, an active involvement of state bodies and regulators aimed at creating favorable conditions for the formation and further development of the country's innovative potential will also be a prerequisite.

Analysis of scientific research results' practical use indicate systemic problems in the process of generation, legal protection and integration, such as: research financing effective tools are not in place, enterprises participation in the implementation of applied science and innovative projects incentives are not adequate.

Poor level of economic and social sectors interaction with research institutions, the lack of ministries, departments and public authorities coordination in the area of innovative development impede the achievement of priority goals and objectives in this direction.

### **Formation of associations and cooperatives**

Uzbekistan is carefully studying the format of the "Triple helix", also called the "Golden triangle" – known as the formula of success for Netherlands' innovative agribusiness development model, where large private cooperatives formed as international partner companies (like very well-known Campina GmbH & Co. – the producer of dairy products and yoghurts) play the role of the power train.

Given the agro-industrial nature of Uzbekistan's economy, there is a great potential in the clusterization of agricultural sectors with focus on local associations while actively engaging principles of cooperative management and attracting academic and government resources.

### **Institutional environment – organization of interaction system**

However, to ensure conditions for the implementation of "Triple Helix" model and its equivalents in the Republic of Uzbekistan appropriate regulatory institutional environment must be put in place.

It should be noted that traditionally the Government bodies were perceived in Uzbekistan as the main initiator and organizer of all reforms and transformations in public sector. The role of informal and business associations was less visible and not that substantive.

With the launch of the reforms in the country, other processes have gained momentum, rapidly raising economic and social activity of population.

In this context, the idea of widespread implementation of the "Triple Helix" format in the country can be considered relevant and timely today. It will require

harmonization of the legislative framework (ensuring a fair distribution of the results of joint activities), regulatory acts (including matters related to tax and customs regulation), the formation of institutions and systems of interaction and decision-making (including feedback systems), the establishment of relations between regional groups and at the national level.

### **CEDR.uz – as the Triple Helix element, our experience**

We are located in the heart of oldest Economic University with numerous of its students, teachers, professors and experts. At the same time, we have relatively independent position in respect to government agencies, including economic ones. At the same time, we actively cooperate with the Presidents Administration, the Senate, the Cabinet of Ministers, ministries and departments, banks and the private sector. In line with this work, we prepare reports, concept notes, analytical papers and reviews, development programs and strategies, including regional social economic development strategies.

It would be fair to say, that the work of our Center today is based on "Science – business sector – government" interaction format, with number of events (round tables, seminars, conferences) being organized for all the three counterparts present, where the results of research are discussed:

- "Prospects of digital development of the Republic of Uzbekistan»;
- "Prospects of demographic development of the Republic of Uzbekistan for the period of 2018-2050: basic principles, prerequisites and results of the forecast»;
- "Shadow economy: problems, solutions and results»;
- "Proposals on the concept of Uzbekistan-2035 Development Strategy", developed by the International non-governmental non-profit organization "Buyuk Kelajak”;
- "Introduction of Islamic securities – prospects of Uzbekistan’s stock market new instrument".

It should be noted that one of the sectors of the Center is also focused on the issues of "Science and Education Integration" to ensure research results implementation.

At the same time, the Center conducts active research for large business entities, as well as for specific private sector enterprises and entrepreneurs.

Master's students of specialized economic universities are actively involved in fundamental and applied research projects, qualifying internships are organized as well.

The "Round table" with most progressive scientists, economists of leading scientific organizations, specialists of ministries, departments and leading sectors of the economy, as well as a wide range of representatives of business community is another stream of work of our Center.

Representatives of international financial organizations and leading companies, including those with participation of foreign investments, are invited to certain events.

Round tables held frequently on discussion platform basis provide an opportunity to discuss most pressing economic problems, develop recommendations on reforms in the country.

### **International experience: science – business government**

Research process cannot be effectively built in an isolated environment, with no intensive exchange of information about the advanced achievements of the area of research. Based on this, and taking into account the range of tasks set for our Center, we are work actively to expand our international contacts.

Only for the recent period we have reached agreements and established long-term cooperation with a number of partner organizations:

- The United Nations population Fund (UNFPA) to study the UN and foreign countries experience in the periodic population census, publication of the National demographic dictionary of international terms, the involvement of foreign experts in the our Center activities;

- Charles University (Czech Republic) to form national school of demographic analysis and forecasting, which includes joint analytical and research projects, training of young scientists, joint seminars and trainings, publication of the results of research;

- The Kaluga branch of the Federal state budgetary educational institution of higher education "Russian Academy of national economy and public administration under the President of the Russian Federation" to organize and carry out joint work and research activities, implementation of projects.

### **Enhancing regional and international cooperation**

Taking into account the above, we intend to continue consistent systematization and implementation of "Triple Helix" model in Uzbekistan, to use foreign experience and best practices in the country, to implement active information exchange.

We are certainly interested in the experience of Kazakhstan and other CIS countries, which will help to determine most effective ways and methods of achieving the goals, scaling the results for all stakeholders involved in the process.

Taking into account our Center's role and position, we would like to invite representatives of all interested parties to establish contacts and actively cooperate. Such cooperation at the regional and international level will, for sure, be useful and mutually beneficial.

# LEGAL CLINIC AS A FORM OF INTERACTIVE LEARNING OF LAWYERS

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**Abstract.** The study showed that business incubators, being the key elements for the development and support of small business, are also an instrument of innovation and socio-economic policy. Accordingly, the further development of business incubation processes contributes to the development and strengthening of the national innovation system of Kazakhstan, which is a necessary factor in the development of an innovative economy. The study contains a theoretical and methodological rationale for the development of innovative companies in business incubators, the formation of a system for evaluating the effectiveness of the activity of an incubator, the development of tools for selecting residents of incubators, confirmed by approbation. The presented research results can be the basis for the development in Kazakhstan of the next generation of business incubators «without walls», the purpose of which would not be to rent out premises on preferential terms, but to provide efficient business development services in remote access via video link, integrated information and communication systems.

**Keywords:** legal clinic, interactive training method, legal aid, population, student-clinician, professional skills and abilities.

Recently, questions of fundamentally new methods and interactive forms of training law students are being increasingly discussed in legal circles. It should be recognized that the existing forms and the process of education are largely outdated. Lectures, seminars, colloquiums, tests and exams - all this was 100-200 years ago and still exists today. Modern realities require greater freedom of creativity in conducting classes, therefore interactive methods, based on «innovation», «modernity», «practicality» became popular in the educational process [1, p. 4].

It should be noted that the main base of any interactive teaching method is legal practice. Undoubtedly, the legal profession requires not only knowledge of theoretical material, but also the ability to put it into practice. In this regard, it becomes not so important what forms of interactive learning of students the teacher uses. These can be open lectures with professional lawyers who have achieved a lot in practice, debates, situational role-playing games, an educational court, etc. From the first course, the main task is to train law students sober assessment and understanding of what is happening in the courts, government bodies and, of course, relationships between people. From the first days of training, the future lawyer should perceive the law not only as theoretical material, but also as «living», constantly a changing and dynamic phenomenon. In this regard, the teacher is tasked with instilling in the student new knowledge and skills for working with real material in ordinary life.

Consider the clinical form of training lawyers as an interactive method. First you need to give answers to the questions: What is a legal clinic? What place does this method take among other interactive methods of teaching students?

One of the first references to the legal clinic is contained in the article by Professor A. Lyublinsky entitled «About» legal clinics «. The Kazakhstan understanding of the term "legal clinic", published in January 1901 [2, p. 175]. In it, the author describes how he sees the legal clinic in Russia, denotes its basic principles, goals and objectives. The article states on what basis this activity is built:

1) those who need legal assistance will apply to legal clinics, and this assistance should be provided free of charge;

2) since legal assistance is provided by clinical students under the supervision of the head, this activity should not go beyond this audience, since these persons cannot speak in court or administrative institutions;

3) if the bulk of the people who applied for help are the poor population, then it can be concluded that legal clinics are a special kind of charitable institutions;

4) by providing legal assistance to the public free of charge, legal clinics file a serious application for competition with professionals engaged in advocacy;

5) due to the fact that legal clinics require thorough theoretical training, the introduction of this form of education becomes possible only for senior students in a mandatory manner.

Another definition of a legal clinic is given by Khudoykina T. V. in the article «Legal Clinic as an Innovative Form of Law Student Education», which states that «the essence of a legal clinic as an innovative form of law student education, which is an organizational structure that implements clinical law training that allows students to acquire practical (professional) skills in «live» affairs and real problems «[3, p. 20].

From all of the above, it can be concluded that a legal clinic is a form of law students' training, which consists in providing free, specialized, gratuitous, professional legal assistance to a population in need through practical skills acquired by them.

Considering legal clinics as a form of online training for law students, one should not forget about their social orientation. Clinical legal education is one of the teaching methods in law schools, through which students provide qualified assistance to real clients under the guidance of teachers and practicing lawyers. Thus, clinical legal education allows law students to fully implement the acquired skills and learn how to apply the law in a real professional situation. Therefore, they strive to achieve various goals, including the protection of the rights and freedoms of a person and citizen, the rights of consumers, the environment, the interests of vulnerable social groups, etc.

The activities of legal clinics are based not only on the basis of legal assistance to the population. Most of the questions that citizens address are not

related to legal relations, but radically different types of social relations. Often, citizens, turning to lawyers for help, try to resolve their moral and ethical conflicts or disputes through legal means. Most of these conflicts arise, as a rule, from the sphere of family relations. The most frequent cases include: dissatisfaction of neighbors about the repair unfolded in your home, conflict between spouses against the background of marriage and family obligations, etc. Students who are participate in resolving such cases, learn how to apply not only legal norms with respect to this conflict, but also the moral and ethical ones that have been established in our society.

So, it should be recognized that legal clinics are a modern and necessary interactive form of education for future lawyers, whose activities should not end with simple counseling of the population. When conducting master classes by specialists in various branches of law, clinical students form a complete, real picture of reality, they are inculcated with professional, psychological and ethical skills, which again speaks about the social orientation of legal clinics.

It is necessary to note the fact that not only the task of training is solved by legal clinics, but in the process of students' participation in their activities, students are brought up and developed. Education consists, first of all, in the formation of professional legal awareness, the legal culture of the students themselves, respectful attitude towards clients (and people in general), the ability to support clients morally, to take responsibility, to bring things started matter to the end. At the same time, the development of such necessary personal and professional qualities as attentiveness, independence, accuracy, and communication skills are improving.

Legal clinic allows students to overcome fear and self-doubt by communicating with clients, solving encountered real-life legal tasks.

Thus, the emergence of legal clinics at universities, teaching students of the legal profession, is an important way of forming the currently necessary personally developed, independent, prepared for the practice of lawyers.

The training program in the legal clinic complements the standard legal education, giving invaluable practical experience to students. Students who are consultants of a legal clinic work not just «as lawyers», they work as lawyers - they independently advise citizens and draw up legal documents. This is not a theoretical discussion of other people's experience, as in traditional occupations; not observing the work of professionals, as in the course of familiarization practice; no help at work, as in production practice. This is a full-fledged independent work, about outgoing under the guidance of curators, that is, university professors, And who are practicing lawyers. When solving a specific legal problem, a student uses his current knowledge of current legislation, studies and summarizes the existing judicial practice, using reference and legal systems, educational literature[4, p. 29].

The legal clinic provides a unique opportunity to find out: how to properly interview a client; how to consult him competently; how to fully and clearly draw up a statement of claim and other legal documents; how to solve the difficult problems of professional ethics of a lawyer and much more. At the same time, the student increases the sense of professional responsibility towards society, develops personal qualities: understanding, respect for people, desire to help, he fully understands the role of a lawyer in modern society. All this in the future will help minimize the expression of practitioners "forget everything that you were taught in the university.

It is well known that there is a surplus of lawyers in the labor market. In order to get a prestigious job with a decent wage, you must have not just a diploma of higher legal education, but also work experience. When graduating from a university, a student is faced with an intractable problem - lack of practical skills, because legal education most often aimed at obtaining theoretical skills. The question arises: where to go yesterday's student, if all employers require experienced professionals?

In the Russian Federation, educational programs in the specialty of jurisprudence do not include subjects (special courses) such as: academic or legal writing, legal engineering. In some countries, for example, in Germany at the University of Hannover, a legal clinic is included in the educational process in the form of an educational and practical course consisting of theoretical and practical elements.

In this regard, novice lawyers lack the skills of legal writing, which experts call "completely abnormal." Therefore, at the moment, such skills can only be obtained in legal clinics where teachers and curators direct the process. It is possible to improve the quality of legal education through the obligatory presence of a legal clinic at each

Otherwise, we will be faced with the problem of incompetence of graduates who are unlikely to have basic practical skills and will not meet the requirements of the practical work of a lawyer.

At the moment, the development of higher legal education, legal clinics are the only high-quality way to obtain practical skills in working with clients, legal writing, preparation of procedural documents, the foundations of legal techniques. In the course of working on various types of cases, the student can decide on his future professional specialization. Such a mostly voluntary form of cooperation between a legal clinic and a student (most of them legal clinics do not entail an order of performance certification) can be a decent basis for entering the profession. Legal clinics help educate a new generation of social law-oriented professional lawyers.

Theory and practice in education should complement each other and should not be separated. Legal clinics that are organized at higher educational institutions in order to provide students with the opportunity to gain counseling experience are

one of the most important foundations in obtaining a good and high-quality education.

It is in legal clinics that students can get invaluable experience and form the right legal awareness. «... In the sphere of law, a person is what his legal activity is.», Academician V. Salnikov notes. The legal activities of each of the clinicians should be directly related to law and morality. Law and morality are the main social regulators of human behavior. He realizes his demands through power, and the demands of morality are maintained in the individual by his conscience. Immanuel Kant, professor of philosophy at the University of Königsberg (1724-1804), stated: "The law prescribes not only legality, but also morality." The realization of the right is impossible without moral evaluations. It is in the clinic that for the first time students are faced with the fact that a law-abiding citizen is not necessarily a virtuous one and legal provisions of any order do not justify it from the moral side. A person who is recognized and legally guilty is not necessarily morally guilty. The student begins to realize the convergence of law and morality, but he must understand that the law should not turn into morality itself.

Legal clinic teaches how to apply theoretical knowledge in a particular case. The fundamentals that were acquired as you study the discipline are used in counseling. The student plunges into the world of legal acts. He is more aware of the importance of every word in the law. In the event of legal issues law students solve them under the guidance of teachers, practicing lawyers. Understands attachment to the letter of the law. Over time, it finds collisions and gaps in the law. More deeply begins the study of scientific literature. The personality of the future lawyer is becoming.

It is important to consider changes in the mind of the clinician at the time of the meeting with legal norms and real legal issues. In this case, the teacher should clarify and interpret everything as it should, in order to further eliminate difficulties in considering existing legal norms.

The word clinic itself means an inpatient hospital where scientific and educational work is conducted. In a legal clinic, too, there is a kind of improvement of citizens, only in the legal sense of the word.

Legal consciousness develops ideas about the need and need to make certain regulatory decisions. Of great importance is the level of legal awareness, the legal culture of the subjects involved in the creation of regulatory legal acts. It is in legal clinics that the legal consciousness of law students is forming, which plays an important role in the life of future lawyers[4, p. 12].

Legal consciousness is formed under the influence of public relations and relations. Therefore, if work in a legal clinic will be the basis, then a positive legal consciousness will undoubtedly be formed. Legal conscience plays a fundamental role in lawmaking, improving and implementing the rule of law. Law, legal practice, in turn, actively influence the formation of the legal consciousness of the

whole society. An important goal should be to foster a positive outlook on the right students. After all, today's students will have to live in Kazakhstan tomorrow and govern the state and form a legal consciousness.

As a further study of the problem studied by the author, it is necessary to significantly enrich both the forms of the incubators themselves and the methodology and tools used by these structures. To do this today it is necessary to formulate the institutional peculiarity and true potential of incubators as clearly as possible.

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# THE PROTECTION OF PERSONAL INFORMATION IN COMPUTER NETWORKS

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**Abstract.** This article addresses a security issue with private data on the network. Analyzed ways to ensure privacy using onion routing and hash functions. Particular attention is paid to Internet users. The study revealed that there is no secrecy on the Internet. For anonymous visits, use the Tor network.

**Keywords:** Personal information protection, personal data, Tor software, hash function, social network.

With the growth of technological progress, more information is stored on personal computers, smartphones, tablets and other gadgets. These can be Bank cards, photos, videos, ID cards, contact phone number, e-mail address and more. Many users have started to store personal information on the Internet. The subject creates an account to store, search, process information and does not know that data is collected about him. Google has the function of location tracking, auto upload photos from your smartphone to the cloud storage. In case of leakage, personal data may be in the public domain. It should be noted that there is currently insufficient research on the security of personal information on the Internet. In this regard, it becomes important to ensure the protection of personal information in computer systems [1].

The aim is to investigate the role of personal data in computer technology and computer networks.

Problems:

- identify the specifics of information security;
- to analyze the means of information security.

The object of research is personal information. The subject of research is the protection of personal information in computer networks.

A study of the problem of protection of the personal information involved such authors as E. Tannenbaum [1, pp. 659-667], H. BOS [1, p. 668-675], Wetherall [2, p. 808], R. Mamedov [3, p. 44], V. Kama [4, p.15] and S. vahanen [5]. They believe that sending emails over the network they go through a dozen computers on their way. Each of these computers can read and modify the data passing through it. Many users are unaware that privacy does not exist. To solve this issue, the software PGP (Pretty Good Privacy) was developed – a pretty good

secrecy. A registered user of the social network provides her with some information about himself. If you specify valid data about your identity, personal data will be added to the database of the social network.

R. Mammadov believes that it is necessary to protect your personal information in the network [3, p. 44].

V. Kamsky shares R. Mammadov's point of view and suggests using privacy settings to protect his page in the social network [4, p. 51].

In our opinion, personal information on the Internet can cause significant personal harm. You should not friend unknown people or join questionable groups, or install apps from unknown sources within social networks. Also, do not open links from strangers. In General, it is necessary to use the basic rules of computer security.

If you use Hash functions and Tor software to encrypt data, the risk of interception will vary from 5% to 10%.

When writing the article, we use the following methods: ascent from simple to complex, analysis and synthesis.

Modern computer technologies create opportunities to store photos, videos, passwords from Internet banking and social networks on their devices. Each time you access the Internet, the user receives useful information. However, while browsing the web page, the device from which the connection was made to the network, begins to transmit information about the user to the owner of the site. When a subject visits a web service, the computer sends a packet with the user's IP address to the server for the resource to respond to your request and display the page.

Internet service provider, website owners, email recipients and intruder (hackers) have the technical ability to collect personal data about the user. At the conclusion of the contract between the Internet provider and the subscriber, the first becomes known phone number, place of residence and identity card of the client. In addition, the provider collects data on what resources the person visited. A webmaster can connect a counter to its resource that shows the site owner the number of users, gender, age, and location. These data can be used to identify the user, to find out the name, surname, phone number, e-mail address and date of birth. This allows the owners of Internet pages to analyze the interests and composition of visitors. Marketers actively use targeted advertising in social networks in their projects. This helps to clearly track the interests, the presence of a house or a car from buyers. A cookie file on the computer of visitor is used to process the information. It allows you to determine the IP-address of the client, the type of operating system, browser, information about the visited sites.

In the Internet community, an urgent problem is an information attack on the identity, password theft, malware infection and various information manipulation. Attackers use social networks to obtain sensitive information about users. Published information on the network is in the public domain. On an open profile

in the social network, a foe can create a copy of your page and perform illegal actions through it. All this relates to the personal life of the subject and includes personal data. The longer the material is stored on the computer and on the network, the greater the need for its protection.

Information security is the prevention of unauthorized access to personal data. It is possible to carry availability, integrity and confidentiality. The availability of information ensures timely and free access to it. The integrity of the information displays its completeness. Privacy means that only authorized users have access to it.

When sending e-mail over the network from one subscriber to another, the letter passes through many computers. Each of them can both read and write a letter passing through it. Privacy does not exist. In 1991 released PGP (Pretty Good Privacy-pretty good privacy). It includes an email package that provides privacy, digital signature, compression, and authentication. PGP uses the international encryption algorithm IDEA. The MD5 algorithm is responsible for data integrity. PGP technology allows you to immediately encrypt files on the sender's computer and send them in encrypted form and decrypt them on the recipient's computer. With this type of encryption, no one will be able to read or change the transmitted information. Figure 1 shows the PGP algorithm. To use this technology, the sender and the recipient create a key pair, which consists of a secret and a public key. This key pair is password-protected. To transfer an encrypted e-mail message from subscriber A to subscriber B, the first one must take the public key of subscriber B and encrypt the letter with it. For recipient B to be able to read this encrypted message, you need to use a secret key and password. To send an encrypted response, you need to take the public key of subscriber A and encode the message for him. PGP technology allows you to protect personal correspondence from unauthorized persons.



Figure 1. The algorithm of PGP  
Note: compiled by the author

There are many ways to ensure data security in computer networks. Easy password combinations are often set. For example, name, date of birth, favorite dish, or football team name. Such passwords are easy to remember and pick up, but in this case it will not provide security. There are people who use very complex passwords that have to be written down on paper. The subject who is near the computer can access the information.

There are file systems that are able to encode all the data on the hard drive, and a significant part of social networks encrypt passwords. The idea of cryptography is to convert plain text – a document or a message-into ciphertext. Only those who know the secret key can decrypt the message. Without this key, the text represents an incomprehensible sequence of bits.

Encryption is the procedure of modifying data so that it becomes useless to an outsider. The first cipher was invented by Julius Caesar. Caesar's cipher works by shifting the alphabet. The standard uses a right shift of 3 letters. "R" will be "U", "J" will be "M" and so on.

Current cryptography offers a large complex for security from "traditional" encryption to digital signature, authentication, hashing and other cryptographic protocols.

The hash function creates a digital fingerprint from the original data. The finished information is called a hash amount. It takes a piece of text, file or password from the account and converts this information into a string of a certain length. The input information can be any size, but the string will be the same length. The word "Security" passed through the Sha-256 algorithm looks like "5d2d3ceb7abe552344276d47d36a8175b7aeb250a9bf0bf00e850cd23ecf2e43".

When using the AES algorithm, information can be decoded using a secret phrase. The hash function only works one way. By passing information through the hash function, you will not be able to get the original information knowing the hash value. It should be fast, but it is also vulnerable to attacks. For a good function, it is important to have an avalanche effect. If you change 1 byte, the resulting hash will change dramatically. When registering on the Internet portal, login and password are passed through a certain hash function, and its value is recorded in the database. Twitter uses the SHA-256 algorithm in order not to store logins and passwords in text form. When authorized, they are again passed through the hash function and the hash value is compared with the previously recorded in the database. If the values match, the system authorizes you, and if they do not match, you receive an error message. A potential attacker who hacks into the database of any social network will get the value of hashes, not pure user data. Since the hash function is unidirectional, it is impossible to get the original data from it. After receiving the hashes, the attacker will be able to learn some user passwords. To do this, use the attack on the rainbow tables. It uses pre-calculated hashes for simple passwords and compares them. Slow hash functions such as bcrypt, scrypt, argon2 are used to protect against brute force. The bcrypt function to create a private key

uses the user's password, adds salt to protect against rainbow tables and an additional cost parameter. This parameter specifies the number of cycles through which information will be skipped. Thus, a brute-force attack becomes impossible.

When a user is online, the destination resource to which the user is accessing receives its ip address. An IP address (Internet Protocol Address) is a set of numbers that identifies computers on the Internet. Any device that has access to the network has a unique ip-address. Due to this, all sorts of nodes interact with each other. When you visit the resource, your device sends a packet of data to the server. This packet contains the ip address of the visitor. It is needed in order to send a response to your request. With the help of ip-address you can find the owner of the gadget and its location. Onion routing is used to provide a secure and anonymous connection. Tor (The Onion Router) – free software (SOFTWARE) hides the real ip-address and replaces it with another. This changes the location information. All over the world there are many computers that are connected to each other. These computers are formed into a large network and use identical SOFTWARE. Transmission of information within the network engaged in certain machines that form nodes. When you log on to the Tor network, the SOFTWARE updates the entire host database, then selects the route that network traffic will be sent. The route information must pass through three nodes (see figure 2).

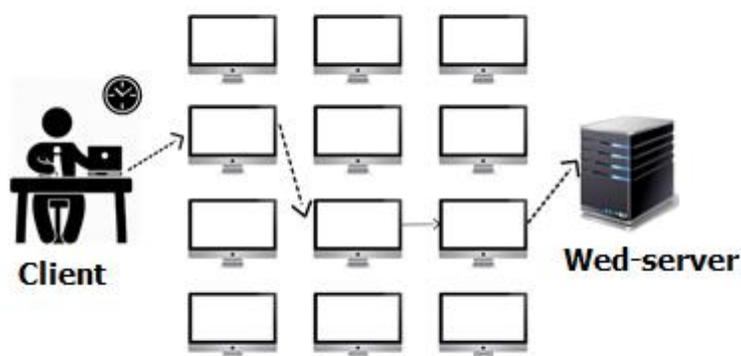


Figure 2. The scheme of work of the Tor network

Note: compiled by the author

Each node has a specific task. The online service request must pass through each node. The initial input node is required for forwarding to the intermediate node. The input node is the one that works for a long time. The smart host handles the transmission of encrypted traffic within the network. The output node sends the original request to the site server. The Internet resource accepts the ip address of the last node, not the user. The Tor network is designed so that nodes are unable to read the encoded information. Only the last node can decode encrypted data. The

encryption procedure is built in several steps. Client-side data is encoded in such a way that only the output node can decrypt it. Primary data form layers of encryption, which are similar to the structure of the bulb. Each node has only the data it needs.

Over time, computers will become faster and easier to attack. To protect against this, you must increase the cost parameter when using hash functions. Tor software is recommended for everyone. The network traffic of the protected entity. Only the output node can view the data because it passes it to the destination. However, this is acceptable when using non-secure protocols such as HTTP or FTP. To hide information from the output node, use secure HTTPS. As a result of the study, the hypothesis was fully confirmed.

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## DOCUMENTARY: THREE AUTHORS' VIEWS ON THE EVENTS OF DECEMBER 1986 IN THE CONTEXT OF THE TIMEDYNAMICS

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**Abstract.** This article provides examples and research results that may be useful for the use of a new approach in the study of documentary films. The rapid development of the worldview in the late 20<sup>th</sup> century in former USSA, before the collapse of the Soviet Empire, demonstrates the fall of ideological orientation, the obliteration and transformation of meanings, the shifts of focus of attention, and the re-coding of signs in documentary cinematography, while preserving the aesthetic value of the work. The study of documentary films in the context of the dynamics of the picture of the world or in the context of a unique picture of the world provides an opportunity to consider the screen work not in terms of the veracity of the chronicle document, but as a trace of the era through the author's optics of the Director.

**Keywords:** picture of the world, director's techniques, former socialist countries, the events of December 1986 in Kazakhstan, the image of the time.

### **The problem**

According to Henry Etzkowitz and Loet Leydesdorff, "The main role in the formation and implementation of new universities should play with ideas and technologies. Universities need to change their priorities in the side of research budgets. Such a the main point of the book, "the Triple helix. Universities - enterprises - state. Innovation in action" [1].

In domestic film studies there is practically no scientific research on the conjugation of the real facts of life of the country and society with their reproduction in newsreels and documentaries. In this article we present the results of the research of the three documentary films on the theme "the Events of December 1986" in the period of "perestroika" and "glasnost" that preceded the collapse of the Soviet Union and immediately after the fall of the Soviet regime.

The history of the former USSR countries over the period 1986-1991 was marked by global events: the breakdown of the Soviet Union, the gaining of independence and the establishment and strengthening of new democratic state. All these events were reflected in the constantly changing picture of the world. The works of cinematography that delegate the audience the author's very own view of reality have become an alternative to the intensely replicated ordinariness of mass media productions. Today, unfortunately, the art of cinema

in Kazakhstan offers two completely different pictures of the world of modern society . On one side is the so-called "custom" or "big historical film genre", filmed on a fairly large state budget. These are films about the historical past ("Nomad", "Mongol", etc.) or films about political figures of Kazakhstan ("the Sky Sky of my childhood"). On the other side – ostrosotsialnoe author's low-budget "guerrilla cinema" about the lives and problems of ordinary people. In the field of documentary films the situation is even more sad. Under the state order, films are made only on topics approved by the government. This is a gallery of portraits of loyal authorities of famous people or government officials. The author's documentary film of Kazakhstan, covering the problems of society, analyzing historical events from different points of view (and not only according to the officially approved point of view) or dedicated to ordinary extraordinary people, unfortunately, is almost not removed. This situation is not conducive to dialogue between the authorities and society.

Thus, the study of the subjects "Directing", "History of cinema", "Documentary cinema" with the inclusion of the analysis of films shot on the same theme in different historical epochs reveals the transformation of the picture of the world through the author's optics of the Director and rethink the cultural heritage in the field of fiction and documentary films. The Triple helix model of innovation “determines the need to change the role of participants in the innovation process. The main role here is given to universities (science), which become entrepreneurial universities” [2].

### **Theoretical framework of the study**

Documentary cinematography is an area of the art of cinema that is tasked to reproduce actual events – the authenticity of the material such as documentary shots, facts, phenomena, cinematographic and photographic documents, artifacts, and other iconographic elements.

The issue of relationships existing between actual reality and the reality reproduced in art has led to the emergence of a whole range of research from the 19<sup>th</sup> through 21<sup>st</sup> centuries into notions such as the picture of the world and the image of the world. The picture of the world is an individual system of conceptions each human being has in respect of the actual reality, including of themselves, other people, various facts, events, occurrences, phenomena, time and space, and the physical and metaphysical structure of the world.

Oswald Spengler wrote in “The Decline of the West” [3] that there are as many worlds as people and cultures and that the entire reality may be represented in its image that suggests possible ways to understand life. Martin Heidegger’s “The Age of the World Picture” [4], suggests that the picture of the world is the *second* world created and put by a human being between themselves and reality. Erich Fromm’s “To Have or to” [5] defines the picture of the world as “the map of our natural and social world and our place in it”. Carl Gustav Jung in his “Modern Man

in Search of a” [6]names the picture of the world “a picture we draw for the sake of our soul”

Scholars differentiate between the scientific, mythological (or religious), worldview and imaginative pictures of the world as a form of public or collective consciousness. If art is thinking in terms of images then science is thinking in terms of notions. There are also other concepts that are close to the notion of the picture in the world: the conceptual or notional picture mentioned by Yuri Lotman in “Inside the Thinking Worlds”[7], the “aesthetic vision of the world” used by Mikhail Bakhtin in “The Aesthetics of Verbal Art”[8], the “model of the universe” suggested by Sergey Smirnov in “The Notion of the Image of the World and Its Meaning for Cognitive Psychology” [9], and the “image of the world” described by Alexey Leontiev in the “Psychology of an” [10].

The image of time coded in a director’s subjective preferences comes to the forefront where it helps to capture transformations in the picture of the world through the director’s very own optics. Therefore, the principal means to interpret the surrounding reality is not the event itself (numerous facts and phenomena), but the image that, when liberated from its *source*, raises questions as to its connection with the object it expresses or *purports to express*. After all, bearing a resemblance to an image means finding it at least, and, when it is found, it is necessary to try not to get drowned in it, since the image is connected to an endless flow of images – different and liberated. The relationships between images are, therefore, the most unpredictable and difficult to capture.

The first studies of the manifestations of an inner, invisible or half-concealed cinematographic image that is present dynamically behind stable and fixed elements, appeared in the first half of the 20th century. Sergey Eisenstein wrote that image is born behind the frame as a result of connecting two independent shots [11]. There exists a notion of Kuleshov effect – a film editing, or montage, effect, an image behind a shot, the third meaning [12]. Maurice Merleau-Ponty, in particular, viewed image as the *circulation* of the visible and the invisible [13]. Rosalind Krauss described photography as something behind which the image is present [14]. Jean-Paul Sartre wrote about image as the place from which the object is absent [15]. Postmodernist works by Gilles Deleuze introduce the notions of time-image, movement-image, and affection-image [16].

The screen per se creates layers of new meanings that, in various patterns, multiply and transform their content. Moreover, according to the aesthetics of postmodernism, these new meanings are not obligatorily a conscious result of the author’s efforts and are even not always realised by the author. However, this “unawareness” does not compromise the impact of the entire paradigm of meanings on the audience but intensifies it.

## **Methods of Research**

The research uses the historical and complex approaches that combine several methods: structural analysis, hermeneutic analysis, semiotic analysis, and comparative analysis. A modern researcher views any audiovisual work (or any documentary here) as a *text*. The proper understanding of texts and their interpretation is one of the most challenging tasks faced by a film scholar, especially as concerns documentary works with deep philosophical meaning and subjective vision of reality. The artistic potential of the complex approach makes it possible to address many different layers present in the director's subconsciousness, as well as his creative background and personal experience.

The collection of essays "*Silence, Screen, and Spectacle*" [17] analyses the global *culture of commemoration* of the modern world, which gets continuously transformed together with the new media. It studies methods to tell, present, screen and broadcast the past, post it on Facebook and Twitter, and consider it in new contexts. "*Writing History in the Digital Age*" [18] considers how the new digital technology opens opportunities for the democratisation of the very process of writing history and ensuring civic engagement of a historian. The authors suggest that various multimedia formats should be used in works on visual or art history. Walter Benjamin [19] introduces Proust's notion of *mémoire involontaire* to explain how the work of memory changes in the modern epoch. Its main feature is that information we receive about the past comes back in the form of a trace that, as he believes, cannot be included in the cognitive experience. Cathy Caruth [20] also views the trace as the literal representation of trauma (or traumatic event). All the above methods or approaches were fundamental to this research or inspired it.

### **Research and Analysis: Three Films about the Events of December 1986**

The research has studied differences in the pictures of the world of three documentary filmmakers from Kazakhstan by analysing directors' techniques used to reproduce reality in the films about the events that happened in Alma-Ata, the capital of the Kazakh Soviet Socialist Republic, in December 1986.

On 16, 17 and 18 December 1986, a demonstration against Moscow's decision to appoint Gennady Kolbin, a person who had no mental or territorial relation to Kazakhstan, as secretary of the Central Committee of the Communist Party of the Kazakh SSR, took place in Almaty, on its main square named after Leonid Brezhnev. The participants in the demonstration, among whom ethnic Kazakhs – students and young people – prevailed, protested against the discrimination of the Kazakh language and Kazakh ethnos. The protest grew into clashes with the police and was cruelly suppressed. According to official reports, one man died – a television worker who had become an occasional victim. However, there are also allegations that there were many victims among the protesters. One of the versions goes that the clashes were provoked by manipulating the consciousness of the naïve and ardent students and fuelled by alcohol and nationalistic speeches. The

other version is that it was the declaration of the will of the progressively thinking part of society. Some people called the participants in the December events *a crowd of drunken and stoned, bestial nationalists*. Others believe they fought for the independence of the nation.

Three documentaries were released by Kazakhfilm between 1987 and 1991: *The Most Precious* by Sergey Azimov and Vladimir Tatenko (1987), *Version* by Oraz Abishev (1989), and *Chronicle of an Undeclared Demonstration* by Naana Chankova and Asiya Baigozhina (1991).

The research has proven that the picture of the world reproduced in documentary films is subjective, and this suggests that this genre of cinematography should be freed from an ideological role, from the boundaries of the so-called *cinematographic truth*, and move towards the creation of a philosophical picture of the world as a trace of the epoch perceived through the optics of the author. Subjectivity becomes, with time, the most reliable evidence of reality, an imperceptible mark of authenticity, which is remembered by the audience, and this is especially the case when a director's reproduction of reality bears the signs of a work of art. The experience of the past demonstrates the oblivion and transformation of meanings, the shift of focus, and the re-coding of signs relative to documentary films of the past epoch. The image of time coded in the director's subjective preferences, which are manifested in the techniques chosen to reproduce reality, comes to the forefront.

Table 1 – Comparative analysis of three films about the events of December 1986

| Film, director, year  | Heroes and antiheroes   | Values and priorities   | Directors' techniques used to reproduce reality  |
|---|---|---|--|
| <i>The Most Precious</i> , Sergey Azimov and Vladimir Tatenko, 1987 | <p>Heroes:</p> <ul style="list-style-type: none"> <li>- "internationalists" (an adopted child, a soldier, the father of the dead young man, veterans of the Afghan war, multi-ethnic families)</li> </ul> <p>Antiheroes:</p> <ul style="list-style-type: none"> <li>- "nationalists" (the faceless crowd, the repentant participants in the events who serve their sentences in prisons)</li> </ul> | Tolerance, internationalism, the friendship, fraternity and unity of Soviet peoples | <p>Juxtaposition as the main technique:</p> <ul style="list-style-type: none"> <li>- the heroes are shot using close-ups and have their own stories</li> <li>- the antiheroes are shot using long and medium shots and depersonalised</li> </ul> <p>Space and time of the main location (square):</p> <ul style="list-style-type: none"> <li>- a demonstration on the 1<sup>st</sup> of May as the image of "joy and unity"</li> <li>- the December demonstration as the image of "an unruly mob, aggression and chaos"</li> <li>- the deserted square as the image of "the realisation of the events as negative"</li> <li>- flashback: the adopted child in 1942 and 35 years later</li> </ul> |

|   |  |  |  |
|---|--|--|--|
| <i>Version,</i><br>Oraz Abishev,<br>1989  | Heroes:<br>- composer<br>Kozhakhmet<br>- officer Daukenov<br>Antiheroes: none<br>Participants in the film:<br>- narrator<br>- passers-by<br>- students           | Justice, self-identification of the nation, the future of the young generation | Main techniques:<br>- short interviews (opposing opinions)<br>- a turn made after the accumulation of information: a negative image of the “nationalist” transforms into a positive image<br>- an open end, ellipsis   |
| <i>Chronicle of an Undeclared Demonstration</i> ,<br>Naana Chankova,<br>Asiya Baigozhina,<br>1991 | Participants in the film:<br>- witnesses to the events<br>- students and young people<br>- law-enforcement officers<br>- Dinmukhamed Kunayev<br>- Gennady Kolbin | Finding national identity, patriotism, an impartial and objective view         | Main techniques:<br>- provocative interviews<br>- chronicle (crackdown on the demonstration, resistance in response, the shootings of young people being beaten)<br>- the filled square as the image of people’s uprush and the subsequent slaughter<br>- the empty square as the image of blood washed away and the covering up of the reasons for and consequences of the events |

The comparative analysis of Kazakhstan’s documentaries shot about the same events of December 1986, against the background of global changes in the country, has revealed different subjective pictures of the world of Kazakhstan’s directors in conjunction with the dynamics of the overall picture of the world. It has also helped to define trends in the techniques the directors used to reproduce the “Soviet picture of the world”, “The picture of the world in the times of perestroika and glasnost”, and “The picture of the world in the first years of independence and nation-building”.

### Conclusion

The concept of "triple helix" is considered by the author of this article as a way to achieve professional competence in the direction of documentary filmmaking in the specialty training process. The article presents research data on the coverage of the events of December 1986. Predicting the development of the potential of the personality of the future director, one should not forget about himself, his needs and peculiarities of the development of the author's vision, and not only the needs of the society-state-business. It is the author's documentary film that creates the most truthful and at the same time unique picture of the world.

“The modern space of culture, including science, education, politics, business, among others, is undergoing major changes, which necessarily necessitates a theoretical and methodological rethinking of those innovations that become dominant in the situation of interdisciplinary interaction of humanitarian and

technical knowledge in education. This becomes particularly relevant in the context of the spread of the popular idea of the triple helix (“Triple Helix”). are other options in the scientific literature: science-technology-society, science-industry-nature, science-economy-government” [21].

The research into the works by the most prominent post-Soviet documentary filmmakers in the late 20<sup>th</sup> century deals with the visible and invisible components of an image, as well as the problem of aesthetic perception in various aspects – media, culturological, psychological, phenomenological, social and political. Of particular interest is the period of transition by a leap forward from ideological prescriptions to the freedom of expression and the late mastering of modernist and postmodernist aesthetics. The article studies the problem of correlation of real facts with their reproduction in documentary films on the example of Kazakh films shot on the same topic “Events of the December 1986”, but in different historical periods. The subjectivity becomes, with time, the most reliable evidence of reality, an imperceptible mark of authenticity, which is remembered by the audience, and this is especially the case when a director’s reproduction of reality bears the signs of a work of art.

Documentaries have always been deemed to differ from fiction films in that they reproduce objective reality in an aesthetically perfect form. Honesty, fidelity to the original document, and the preservation of documented facts were among the most essential features of a work of documentary. Art, of course, has a huge impact on the picture of the world of all segments of society. Sometimes evolution is hindered by the confrontation between the worldview of civil society and power. The great documentaries of the transition period in post-totalitarian countries combine complex visual images, an integral picture of the world, and unique techniques used to reproduce reality that are typical exclusively of their authors.

The author of this article offers an innovative approach to the study of documentary films that reproduce certain historical events in the process of time dynamics in the context of triple helix model. The author proposes new approaches to the study of documentary films and insists that innovation can and should be introduced in the humanities, creative sciences.

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## THE EXPERIENCE OF CORPORATE CULTURE RESEARCH IN A UNIVERSITY OF INNOVATIVE-ENTREPRENEURIAL TYPE

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**Abstract.** The article deals with the study of the corporate culture of university in the conditions of transformation into a university of innovative and entrepreneurial type. The conducted analysis focuses on the conceptual apparatus and on the history of the development of ideas about the corporate culture of organizations in general and universities in particular. The results presented were obtained by using an experimental study of a corporate culture in one of the universities, performed according to the methodology of organizational culture studying by D. Danison.

**Keywords:** corporate culture of a university, organizational culture, university of innovative and entrepreneurial type

The concept of "corporate culture" is actively used by managers and business owners. However, one may simultaneously encounter completely different understandings of this term in the market. Many managers do not know what the corporate culture includes and what impact it has on the state of the organization, and therefore do not pay attention to its purposeful construction. At the same time, there is a corporate culture to any organization, and it is formed either spontaneously or consciously.

In management and psychology of management theory, a unified approach to understanding the essence of corporate culture has not yet been formed either. Many authors see it as a system of common attitudes and values shared by all members of organization, as a distinctive feature of this particular organization.

The definition of "corporate culture" includes several components, such as the atmosphere and social climate in organization, generally accepted rules of the team, stereotypes and norms of behavior, as well as values intrinsic to the organization as a whole and its individual employees in particular. The concept of "corporate culture" actively entered into use in the 1920s, when large corporations felt the need to regulate the relationships between employees.

The problems of the formation and development of corporate culture are actively studied by both foreign and domestic researchers including M. Armstrong, R. Akoff, V. N. Voronin, P. V. Zabelin, A. A. Kennedy,

E. Lowler, P. D. Lewis, A.I. Naumov, N. Newcomb, V.V. Tomilov, A.V. Tyshkovsky, A.V. Filippov, E. Schein, C. Stolz and others. Scientists have made a significant contribution to the methodology and theory of the corporate culture characteristics' study, as well as to the social and psychological mechanisms affecting its formation and development [1].

The studies of the concept and types of corporate culture are presented in the works of: E. Shane; T.Yu. Bazarov; E.A. Kapitonov; R. Dahrendorf; V. Pareto; N. Luman; R. Michels; F. Ferrarti; H.K.B. von Moltke; K. Cameron; R. Quinn; D. Denison; Cameron-Quinn model; Shane's model; Denison's model [2].

The works of A. Kreber and K. Klakhon are devoted to the exposition of the concept of "corporate culture" and its components [3], the contribution of these authors consisted of systematization and review of the set of definitions for the concept of culture, in the course of their analysis they concluded that "a part of a culture consists of norms or standards of behavior. However, the other part consists of ideologies that justify or rationalize certain selected behaviors."

One of the first to relate the concepts of climate and management was D. MacGregor, he used the concept of "managerial climate" in 1964 [4]. His procedural theory of motivation, known as the theory of X and Y, has attracted a lot of attention not only to the corporate culture of the company, but also to the styles of leadership of the team. This approach in management determines the basic idea that leaders translate into daily interactions with their teams. Some managers do share the theory of X and say that their employees work only because they are obligated to and their main goal is to work less and earn more. And others, on the contrary, believe in the Y theory, and consider their employees to be conscious, aspiring to develop and achieve results. It is important to say that in our practice we have seen cases when business owners who share the X theory openly and quite actively transmit their attitudes to the team, and believe that this is right. Of course, even the internal attitude of the manager leaves an imprint on the company's corporate culture, not to mention the open, demonstrative broadcasting.

The management experience of the most successful organizations was investigated by T. Peter and R. Waterman, who studied the most successful companies in the USA. The authors came to the conclusion that it is possible to distinguish 7 variables necessary for the creation and development of a successful organization and called this idea 7-G of the "Mackinsy" company. The authors called the link among all elements "common values". And, in particular, they said that "the true role of the main leader is to manage the value settings of the organization" [5]. Their study showed that the formed organizational culture may be more important than the developed structural scheme, which confirms the experience of Japanese companies.

The typology of corporate cultures was discussed in the works of E. Schein [6]. He proposed a rather successful, even according to modern authors, structure of corporate culture as early as in 1981. He identified three levels of corporate

culture: superficial, internal, and deep. The emergence of the corporate culture's structure made it possible better understand its elements, their interconnection and hierarchy. Companies often put a lot of effort in working with a superficial level of corporate culture, for example, they introduce dress code and do not always get the result that they expected. In our opinion this happens because these changes in the corporate culture do not find any support at the deep level. Workers do not see any value in the dress code, and do not understand how following the standards of appearance increases the efficiency of the company.

T. Dil and A. Kennedy continued studying the typologies, they proposed their own typology of corporate cultures, which includes 4 types. These types of corporate cultures were distinguished on the basis of two coordinate systems: risk (related to the probability of making the wrong strategic decision) and time (which, in fact, shows how right this decision was) [7].

Russian authors explore the phenomenon and mechanisms of influence of corporate culture in a market economy as well. Russian researcher E.S. Gaydarzhi studied the impact of corporate culture on the efficiency of the collective labor entities, the object of his studies were the industrial enterprises of Tyumen. G.A. Mkrtychyan investigated the concept of an entrepreneurial university through the problem of an adequate tool for culture diagnosis.

I.S. Dmitrieva., S.I. Kopylov., V.O. Shelekta, Y.B. Pribytkov studied the corporate culture of the organization and the service quality improvement in the conditions of social transformation on the example of the activities of the university [8]. The authors consider the corporate culture from the standpoint of the quality characteristics of the product obtained by the client "at the output", using the example of a research university. The authors conclude that corporate culture forms the quality and level of service. All aspects of the organization's activities are interconnected and related to the product, which, in this case, is the educational service.

Thus, currently the most developed are the questions of content, functions, mechanisms of influence, and typologies of corporate culture. The specificity of the corporate culture of higher education has just begun to attract the attention of researchers. At the same time, the questions about the influence of corporate culture on the organization's transformation process remain little studied, and so far there are no researches on the corporate culture of the university during the transformation period.

Higher education has its own structure which includes: the educational process, the nurturing process, the teaching staff, the students. Higher education has the functions of social selection, the reproduction of social classes, the formation of professional qualification groups, the determination of the standards of living, public opinion, mentality, the formulation of citizenship. In universities, the

process of socialization of the younger generation is completed, the values and traditions characteristic of this society are transmitted,

Higher education is a set of systematized knowledge and practical skills, allowing to solve theoretical and practical tasks according to the specification of training. The modern achievements of science, technology and culture are used and creatively developed for these aims. This is the training of highly qualified specialists for various sectors of the economy [9].

The areas of our research are: values, cultures, and higher education. They are interconnected in the works of José Ortega y Gasset. It was him who paid great attention to the place of higher education in the history of the development of Western society and the humanity as a whole. José Ortega y Gasset argued that higher education should separate the profession from science, and the focus of the university should be on the culture as a necessary condition for the existence and progress of human thought.

He considered education “the process of building a program of one’s own life by the person with a help of another person (the teacher)”. The author perceived culture as a frame that allows the humankind and single human to control the chaos of life and creates conditions for the development of science. It is culture that will save from the potential shipwreck of life, even if the life itself seems worthless.

Based on these postulates, José Ortega y Gasset identified the following functions of university:

- culture transfer (introduction to significant cultural areas of knowledge)
- professional education
- scientific research and teaching science to new people

Reflecting on the mission of the university, José Ortega y Gasset considered university as “an institution where the average student learns to be a cultured person and a competent professional”.

The mission of university "is a classic research dedicated to the study of university education as a specific cultural and social practice." Thus, we see that the author views university as a testing ground, which reflects all key processes of the whole society, and at the same time, university is a forefront, at which the changes in the public and personal consciousness of a person as a professional, a scientist and a culture bearer occur [10].

V.M. Ivanova [11] identifies two levels of university's corporate culture development: the low and the high levels. The low level is characterized by the lack of a holistic integral image of student, the underdevelopment of the interpersonal relations between teachers, their unwillingness to make contact with each other, and low assessment of the organization’s corporate culture by the teaching staff. The high level of corporate culture development corresponds to a holistic integral image of student, satisfaction with communication with colleagues and an overall high appreciation of the corporate culture of the university by them. At the same time, the low level of corporate culture of an

educational institution can lead to a lack of cohesion of the university staff, an unfavorable atmosphere of the socio-psychological climate.

The internal environment of a corporate culture is distinguished by some individualism, democratic and creative atmosphere. This system of basic material and spiritual values which unites trainers and trainees, makes it possible to form an information field in which professional skills will be transmitted and consolidated.

The specificity of the corporate culture of an educational institution lies in the active role of students in all activities and processes implemented in the university. Both the university staff and the students are bearers of corporate values. At the same time, the students, when graduating from the university and receiving a diploma, broadcast their attitude to the university in the external environment and thereby form the image of the institution [12].

The questionnaire we chose to study the characteristics of corporate culture was the "Organizational Culture Questionnaire" developed by Daniel Denison in 1993. D. Denison studied the relationship between certain characteristics of culture and organizational effectiveness and identified the main features of corporate cultures from leading and lagging enterprises [13].

As a result, the author identified 4 main projections (parameters, factors) of corporate culture that affect business performance; three indexes are calculated for each of these projections, according to factors affecting them [14]:

**Adaptability** - organization's inclination to innovations, the ability of management and employees to quickly adapt to changes. This projection includes the indexes of:

- focus on change (innovation, adaptability);
- focus on customer (an ability to meet customer's needs);
- organizational learning (a systematic approach to professional development).

**Mission** – employees' knowledge, understanding and agreement with the mission and the strategic goals of company. The following indexes are calculated within the framework of this projection:

- strategic direction;
- goals and objectives of organization;
- vision (where we are going).

**Consistency (interaction)** - the ability of management to efficiently, logically consistently organize the work and the interaction of departments and employees in an organization to achieve corporate goals. The following indexes are calculated for this projection:

- coordination and integration;
- consent;
- key values.

**Involvement** - the degree of employees' participation in company's actions, their awareness of the relationship between their personal goals and their

contribution to the overall result and organizational goals. The indexes calculated for this feature include:

- powers;
- development of abilities;
- teamwork orientation.

The calculation of each index is based on the processing of employees' questionnaires. D. Denison's questionnaire consists of 60 questions in a form of statements on the main factors - five statements are formulated for each factor, which reflect its manifestation in the organization to some degree. All statements are rated on a scale from 1 ("I completely disagree") to 5 ("I completely agree"), with the exception of the eight statements (marked \*), which have a negative connotation and require evaluation on a reverse scale from -1 ("I completely agree") to -5 ("completely disagree").

Indexes are calculated for processing the results for each question (factor). The index is calculated as the average value of the average results for all statements within a single factor. This indicator can be expressed as a percentage or in points (the maximum being 5 points).

A study using the D. Denison's model allows you to determine the influence exerted by the corporate culture on key indicators of actions and performance of organization, to understand how they relate, and, as a result, determine priority areas for development, and to develop an action plan to improve organizational effectiveness.

The use of the D. Denison's technique in the analysis of corporate culture for this study is explained by the fact that his questionnaire covers almost all the manifestations of culture in the organization and allows not only to determine the prevailing type of culture, but also to fully describe it.

Figure 1 shows the results obtained by using the organizational culture questionnaire for the entire sample of subjects.

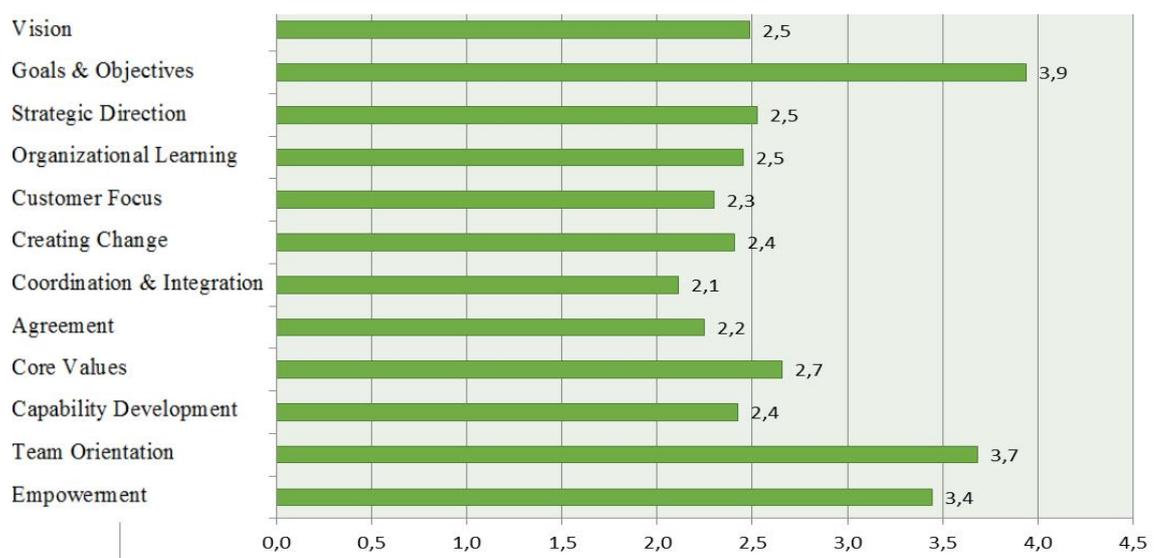


Figure 1. Average values for the entire sample

The presented diagram clearly demonstrates the general results of the sample according to D. Denison's questionnaire. The highest indicator of 3.9 was achieved in the "Objectives" category, while the lowest was made in the "Integration" category. "Team" and "Powers" took the second and the third places respectively. The scales of "Vision", "Strategy", "Training", "Consumer", "Changes", "Abilities" can be grouped in the range from 2.3 to 2.5. "Consent" showed a result of 2.2, and "Values" displayed 2.7 points respectfully.

The three scales that scored the greatest on the questionnaire of organizational culture are: goals, team and powers. This data indicates that the administration's effort in communicating the new strategic goals of the university is effective. The employees know the direction in which their university is developing, they are focused on teamwork and demonstrate willingness to take authority.

At the same time, such scales as: integration, consent and consumer scored the lowest, reflecting a certain mistrust on the part of employees to management's ability to efficiently, logically consistently organize the work and interaction of departments and employees in an organization to achieve corporate goals. This also reflects insufficient attention of the employees to the ability to satisfy customer's needs.

In our opinion, this picture exactly reflects the transformation process. The employees already understand and accept the new goals of the university, they are focused on teamwork and are aware of their own contribution to the final result. At the same time, the process of interaction between subdivisions and employees is at the stage of development and improvement, since the communication channels that have previously worked cannot fully meet the needs of a new type of university.

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## EQ AND ICHAK ADIZES'S PAEI MODEL CORRELATION IN CONTEMPORARY MANAGEMENT

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**Abstract.** This article reflects the concepts of emotional intelligence and the relationship of the influence of the severity of its components on the choice of managerial roles according to I. Adizes in modern companies. As models of emotional intelligence, the model of the “Model of abilities” of Mayer - Saloveya - Caruso and the model of D. Goleman are considered. Today, machines are much more efficient at handling computational and routine processes, both in business and in everyday life. Increasingly, the question arises about the verge that distinguishes a person from a car. The answer lies in the humanitarian field of creativity, relationships, and emotions.

**Key words:** EQ, emotions, stress management, PAEI model, producer, administrator, entrepreneur, integrator, empathy, self-awareness, social awareness, self – management, relationship management, company management

The 21st century has become an extremely significant paradigm for the development of the relationship between machine and man. Research in the field of artificial intelligence and machine learning has gone far ahead and today we cannot imagine ourselves without the usual neural networks, machines with pre-installed Tesla autopilot mode and voice assistants in our mobile devices from major IT companies such as: Google, Apple, Samsung, Yandex, etc. Today, machines are much more efficient at handling computing operations and routine processes both in business and in everyday life. Increasingly, the question arises about the boundary that distinguishes man from the machine. The answer lies in the humanitarian field of creativity, relationships and emotions. The context described above has a direct impact on business. We live in the era of automation of business processes and e – learning approach.

The ways of building relationships within the company, consumer psychology, marketing and sales system, management and motivation of employees are also changing, all of the above has clear numerical indicators, clear Key Performance Indicators, in accordance with which we build our business.

However, an important factor, which has recently increasingly drawn the attention of scientists, and which, in our opinion, serves as a determining factor in the understanding of the differences between man and machine is – EQ (emotional intelligence).

First of all, it is necessary to understand the meaning of the phenomenon of emotional intelligence and reveal the structure of the model of managerial roles of I. Adizes. The phenomenon of emotional intelligence is inextricably linked with the concept of "emotion".

Carroll Izard defines emotions as mental processes that reflect a subjective evaluation of existing or possible situations and the objective world [1]. According to A. S. Batuev, emotions are understood as long-term processes of internal regulation of human or animal activity, reflecting the meaning (meaning for the process of his life), which have existing or possible situations in his life. In humans, emotions generate experiences of pleasure, displeasure, fear, timidity and the like, playing the role of orienting subjective signals [2].

Emotions evolutionarily developed from the simplest innate emotional processes, reduced to organic, motor and secretory changes, to much more complex, lost the instinctive basis of the processes that have a clear link to the situation as a whole, that is, expressing a personal evaluative attitude to existing or possible situations, to their participation in them.

It is customary to distinguish 11 basic emotions according to K. Izard, among them: joy, surprise, sadness, anger, disgust, contempt, grief-suffering, shame, interest-excitement, guilt, embarrassment. The key criteria of basic emotions are: the presence of distinct and specific nerve substrates, the manifestation by means of expressive and specific configuration of muscular facial movements (facial expressions), the basic emotion entails a distinct and specific experience, which is recognized by man, the basic emotions have arisen as a result of evolutionary and biological processes [1].

For many years, one of the key issues in the psychology of emotions has been understanding, where the connection between the cognitive sphere and emotions lies. When we talk about the learning process, we largely mean activities in which the number and quality of the elements of knowledge and skills of the student are brought by the teacher (lecturer) to the proper level (average, reference, possible), which is the purpose of training [3].

That is, education as a whole in the traditional sense is an area where cognitive processes prevail, but for us in the context of this article it is important to understand whether there is a place for emotions in the learning process. Lev Vygotsky wrote in his writings that there is a connection between affect and intelligence. "Every stage in the development of thinking corresponds to its own stage in the development of affect". Development of thinking and emotions originates from a single root - the affective action of the baby.

Further development of affect goes: first on the way of differentiation of emotional sphere of consciousness, with the subsequent differentiation within this sphere; secondly, in the direction of changing the nature of dynamic processes. Both are directly related to the development of thinking [4]. S. L. Rubinstein

considered emotionality, affectivity to be only one specific aspect of the processes of cognitive processes, specifically reflect reality in experiences.

Emotional processes cannot be opposed to cognitive processes as external, mutually exclusive. As emotions constitute the unity of the emotional and intellectual, so cognitive processes form the unity of the intellectual and emotional [5]. Both intellectual and emotional processes are important components of a person's specific life, the relationship of a person with reality, through which a person is formed. Mental reflection always to a certain extent constitutes the unity of two opposite components - knowledge and attitude, intellectual and affective.

The most conceptual model in the understanding of this issue is the theory of emotional intelligence, since it is within this theory that the concept of the emotional and cognitive spheres are combined. In our article, we will discuss 2 models of emotional intelligence, namely the "Model abilities" Mayer – Salovey – Caruso emotional intelligence and a model D. Goleman. Emotional intelligence is understood as the ability of a person to recognize emotions, understand the intentions, motivation and desires of other people and their own, as well as the ability to manage their emotions and emotions of other people in order to solve practical problems [6].

According to the model of Mayer – Salovey – Caruso emotional intelligence model (abilities), EQ can be described following components [7]:

1. Perceiving emotions — the ability to recognize emotions (facial expressions, gestures, appearance, gait, behavior, voice) to other people, and also to identify your own emotions.
2. The use of emotions to stimulate thinking is the ability of a person (mainly unconsciously) to activate his thought process, to awaken creativity in himself, using emotions as a factor of motivation.
3. Understanding emotions — the ability to determine the cause of emotions, to recognize the relationship between thoughts and emotions, to determine the transition from one emotion to another, to predict the development of emotions over time, as well as the ability to interpret emotions in relationships, to understand complex (ambivalent, ambiguous) feelings.
4. Emotion management — the ability to tame, awaken and direct your emotions and the emotions of others to achieve your goals. This also includes the ability to take emotions into account when building logical chains, solving various problems, making decisions and choosing their behavior.

According To D. Goleman, emotional intelligence (hereinafter EQ) - the ability of a person to recognize emotions, understand the intentions, motivation and desires of other people and their own, as well as the ability to manage their emotions and emotions of other people in order to solve practical problems [8].

The following components of EQ are distinguished:

1. Self-awareness - the ability to identify their emotions, their motivation in decision - making, to learn their strengths and weaknesses, to determine their goals and life values.
2. Self-control - the ability to control your emotions, to restrain impulses.
3. Empathy - the ability to consider other people's feelings when making decisions, as well as the ability to empathize with other people.
4. Motivation - the ability to strive to achieve the goal for the sake of the fact of its achievement.
5. Social skills - the ability to build relationships with people, manipulate people, push them in the desired direction.

Both concepts emphasize the importance of emotions in the processes associated with the cognitive sphere, namely in building relationships, self-regulation of behavior, conscious choice of their emotional response to external stimuli, motivation in achieving goals, using emotions to stimulate thinking and creativity. Business management includes many aspects in which emotional intelligence is an essential link.

First of all, the management of the company itself, the ability to manage the whole system and the people who work in it, to find different approaches to motivating staff, to be able to manage their own emotions and understand the emotions of subordinates, building an environmentally friendly and effective communication with respect to employees and delegating them certain tasks. The next area is human resources management (HR), which is manifested in the form of selection of candidates, job profile, the ability to maintain and diagnose the socio – psychological climate in the team and manage talents, in some cases, to cultivate them within the company. The area of communication with the client, the issue of marketing and sales, the need to anticipate the behavior of the client, the formulation of the most advantageous offer, work with identifying the needs of the client and processing his objections. These are all areas of business where emotional intelligence is the key to success.

Also, emotional intelligence is associated with the concept of leadership, which in many ways is a prerequisite for management. Leadership is the process by which one of the group members (its leader) influences other group members to achieve certain group goals [8]. The leader is called the person for whom other members of the team recognize the right to take the most responsible decisions affecting their interests and determining the nature of the group [9]. An inherent property of a leader is the presence of at least one follower. The role of the leader is to lead people, to ensure the existence of such connections between people in the system, which would contribute to the solution of specific tasks within a single goal. That is, the leader is an element of ordering the system of people [8].

Considering the relationship of emotional intelligence and leadership, Holman D., Boyatzis R. E., and McKee introduced the concept of "emotional leadership". In their eponymous book, they confidently emphasize that 80-90% –

and sometimes more – of the abilities that distinguish outstanding leaders from the average—are emotional intelligence skills.

At the same time, the authors note that to some extent, the exceptional success of the leader is determined by his intelligence, and cognitive skills are especially important – a broad mental Outlook and the ability to foresee [10].

Considering leadership abilities in the context of his model of emotional intelligence, D. Goleman specifies this model for leaders. Components of emotional intelligence and leadership skills according to D. Goleman [17, p. 266] are interrelated as follows:

1. Self-consciousness:

- Emotional self-awareness. Leaders with high emotional self-awareness listen to their inner feelings and realize the impact of their feelings on their own psychological state and performance. They are sensitive to their core values and are often able to intuitively choose the best way to behave in a difficult situation, perceiving the whole picture thanks to their flair. Leaders with developed emotional self-awareness are often just and sincere, able to speak openly about their feelings and believing in their ideal.
- Accurate self-esteem. Leaders with high self-esteem usually know their strengths and realize the limits of their capabilities. They treat themselves with humor, readily learn skills they do not know well, and welcome constructive criticism and feedback about their work. Leaders with adequate self-esteem know when to ask for help and what to focus on when developing new leadership skills.
- Confidence. Accurate knowledge of their abilities allows leaders to fully use their strengths. Confident leaders are happy to take on difficult tasks. Such leaders do not lose the sense of reality, have a sense of self-esteem, which will distinguish them from the group.

2. Self-checking:

- Reining in emotions. Leaders with this skill find ways to control their destructive emotions and impulses and even use them to their advantage. The embodiment of a leader who is able to manage his feelings is a leader who remains calm and reasonable even under severe stress or during a crisis — he remains calm even when faced with a problematic situation.
- Openness. Leaders who are honest with themselves and others live in harmony with their values. Openness — a sincere expression of your feelings and beliefs — promotes honest relationships. Such leaders openly admit their mistakes and failures and, without turning a blind eye, struggle with the unethical behavior of others.

- **Adaptivity.** Leaders with adaptability are able to deftly deal with diverse requirements without losing focus and energy, and feel comfortable in the inevitably full uncertainty of organizational life. Such leaders flexibly adapt to the next difficulties, deftly adapt to the changing situation and are alien to the stagnation of thinking in the face of new data and circumstances.
- **The will to win.** Leaders who have this quality are guided by high personal standards, forcing them to constantly strive for improvement — improving the quality of their own work and the efficiency of their subordinates. They are pragmatic, do not set themselves particularly high, but require effort goals, and are able to calculate the risk so that these goals are achievable. A sign of the will to win is a constant desire to learn and to teach other methods of more effective work.
- **Initiative.** Leaders who feel that it is necessary for efficiency, i.e. convinced that they keep good luck by the tail, are distinguished by initiative. They take advantage of opportunities — or create them themselves — and not just sit by the sea and wait for the weather. Such a leader will not hesitate to break or at least circumvent the rules if necessary for the future.
- **Optimism.** A leader who is charged with optimism will find a way to get out of difficult circumstances, he will see in this situation an opportunity, not a threat. Such a leader positively perceives other people, expecting from them the best manifestations. Thanks to their worldview (for them, as you know, "the glass is half full"), they perceive all future changes as changes for the better.

### 3. Social skills:

- **Empathy.** Leaders who have the ability to listen to other people's experiences, are able to tune in to a wide range of emotional signals. This quality allows them to understand the unspoken feelings of both individuals and groups. Such leaders are sympathetic to others and are able to mentally take the place of another person.
- **Business awareness.** Leaders who are acutely aware of all the movements of organizational life are often politically astute, able to identify the most important social interactions and understand the intricacies of the power hierarchy. Such managers generally understand the political forces that operate within the organization and the guiding values and unspoken rules that govern the conduct of its staff.
- **Consideration.** Leaders with this ability strive to create an emotional environment in the organization so that employees who communicate directly with customers and customers always maintain the right relationship with them. Such managers closely monitor how satisfied

their customers are, wanting to make sure they get everything they need. They themselves are also always ready to communicate with everyone.

#### 4. Relationship management:

- **Enthusiasm.** Leaders with such skills are able to provoke a response from employees and at the same time captivate them in an attractive way of the future or a common mission. Such leaders personally set an example of desired behavior for their subordinates and are able to articulate a common mission in a way that inspires others. They set a goal that goes beyond everyday tasks, and thus make the work of employees more spiritual.
- **Influence.** Signs of the ability to influence people are diverse: from the ability to choose the right tone when referring to a particular listener to the ability to attract stakeholders to their side and achieve mass support for their initiative. When leaders with this skill turn to the group, they are consistently persuasive and charming. **Help in self-improvement.** Leaders who have experience in developing human abilities show a genuine interest in those they help to improve — see their goals, advantages and disadvantages. Such leaders are able to give valuable advice to their wards in a timely manner. They are naturally good teachers and mentors.
- **Promoting change.** Leaders who are able to initiate change are able to see the need for change, challenge the established order of things and defend the new one. They can be persuasive in advocating change, even in the face of opposition, with strong arguments for change. They know how to find practical ways to overcome the obstacles that stand in their way.
- **Conflict resolution.** Leaders who skillfully resolve differences are able to bring the conflicting parties to a Frank conversation; they are able to understand different opinions and then find a common ground — an ideal that can be shared by all. They bring the conflict to the surface, accept the feelings and positions of all its participants, and then direct this energy in the direction of a common ideal.
- **Teamwork and cooperation.** Leaders, who can be called excellent team players, create an atmosphere of community in the organization and serve as an example of respectful, responsive and friendly attitude to people. They involve others in an active, reckless pursuit of common ideals, strengthen the morale and sense of unity of the team. They do not spare time for the creation and consolidation of close human relations, not limited to the framework of the working situation.

Dr. Ichak Adizes, a management expert and the founder of the Adizes Institute, developed the PAEI Model in the early 1970s. Since then, he has applied it to thousands of organizations around the world. PAEI is an acronym that

describes four management roles that any team or organization needs to be successful. These are:

- Producer
- Administrator
- Entrepreneur
- Integrator

No one person can fill all of these roles. However, by making sure that you have someone covering each one, you ensure that your management team is strong, effective and able to meet its responsibilities and objectives. You can also use the

PAEI Model to understand your own strengths and weaknesses as a leader. You likely gravitate towards one of these roles naturally, and, when you know which one suits you best, you can then identify which you might unconsciously avoid. This can help you uncover weaknesses and pinpoint skills gaps that you should address. The PAEI Model outlines four simple roles that management teams require, but there are other similar frameworks available.

For example, Mintzberg's Management Roles describes 10 roles that can be filled by leaders. Some of these roles align with those in PAEI, but Mintzberg's approach goes into more detail. The advantage of the PAEI Model, compared with this approach, is its simplicity: the four roles are easy to understand and adopt. The Margerison-McCann Team Management Profile also gives a useful framework for identifying and discussing the strengths and weaknesses of a management team.

Let's look at the four roles in more detail:

### **1. Producer**

The primary goal of any organization is to produce results, and it will typically achieve this by meeting the needs of internal or external customers. The same principle applies to your management team. The person in the producer role is ultimately responsible for the product or service that you're offering. He or she is in charge of meeting goals and objectives, and making sure that the end product delivers the expected results. Producers often work fast, and they tend to focus on the end result. They work hard and get things done.

### **2. Administrator**

Administrators focus on how tasks are completed. They're interested in the rules and policies that help your team or organization function, and they are often highly analytical, concentrating on ensuring that people follow procedures correctly. They often take a slow, structured approach to problem solving and decision making. Organizations often depend on administrators to develop the processes and systems that keep everyone working efficiently and productively. Administrators often work in accounting, or in other process-oriented departments.

### **3. Entrepreneur**

Entrepreneurs are full of ideas. They're inspired by what's possible, and they're gifted at building a shared vision of the future, seeing things that other people can't see, and taking calculated risks. Organizations depend on entrepreneurs to come up with the big ideas that allow them to maintain strategic advantage and enter new markets. They also rely on people in this role to spot opportunities and threats, and help others respond to change. Entrepreneurs can often use an unstructured approach to solving problems and making decisions, and they tend to focus more on a global than a local perspective. Entrepreneurs can often be in senior leadership roles or in marketing or research and development teams.

#### **4. Integrator**

Integrators are the "heart" of a team or organization. They excel at bringing people together and maintaining harmony within a group. They can also rely on an unstructured approach when solving problems, and tend to work more slowly and methodically, as their focus is on the process and not the end result. Integrators have a high degree of emotional intelligence and empathy. They often lead with kindness, they know how to build trust and respect within a team, and they always have time to help a colleague out. Integrators can also play a key role in building an organization's culture, especially in its early stages [9].

The PAEI Model is particularly useful when you're putting together a new management team. It's a quick and easy checklist for ensuring that you have a well-rounded group of people who can work together effectively and achieve the team's goals.

Start by looking at your team charter, and identify your objectives. Then, make a list of the people who have the skills and expertise you need to accomplish your goals.

Next, think about the four roles: producer, administrator, entrepreneur, and integrator. Refer to your list and consider each person's natural working style, their talents, and their strengths and weaknesses. Who fits best within each role? Make sure that you have at least one person in each role in your team.

After analyzing the model of emotional leadership and the model of managerial roles of I. Adizes, we established the relationship of manifestation of certain qualities of emotional intelligence, which allows us to draw the following conclusions:

1. Producers of results have a high degree of self-control, the will to win, the desire to improve personal efficiency in order to meet internal quality standards, initiative - full readiness for action.
2. Administrators tend to influence, that is, possession of a number of tactics of persuasion and business awareness, namely awareness and understanding of the hierarchy of responsibility and policy, current events.

- 3.
4. Entrepreneurs are characterized by the following qualities of emotional intelligence: the ability to lead others, drawing a beautiful picture of the future, promoting change, optimism, correct self-esteem.
5. Integrators are characterized by empathy, support of social ties, assistance in self-improvement and emotional self-awareness.

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## IMPROVEMENT OF INSTITUTIONAL MECHANISMS FOR THE DEVELOPMENT OF INNOVATIVE APPROACHES IN THE SCIENTIFIC AND EDUCATIONAL PROCESS IN RUSSIAN AND GERMAN UNIVERSITIES

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**Abstract.** The article deals with the comparative analysis of different approaches to improve the institutional mechanisms of development of innovative approaches in business, science and education. The relevance of the topic of the scientific article is due to the transition of Russia and Germany to an innovative model of economic development, involving the strengthening of the role of research and development of innovative infrastructure. Innovation is an effective tool that can quickly create promising ways of development of the predominant number of industries. It is noted that it is necessary to clearly understand that in the long term without innovation it is impossible to further economic and cultural growth. In addition, the importance of modernization of the education system and the introduction at the state level of such educational programs that would contribute to the formation of non-standard thinking and atypical approach to solving the problems of the business community is outlined.

**Keyword:** innovative activity, educational standards, teacher, entrepreneurial activity, results of intellectual activity, innovation, digitalization, University.

Modern conditions in the world actively influence the development of national economies and the world economy as a whole. Due to significant changes in the market space, countries are trying to adapt to them and adjust their political activities in order to meet modern global trends. Today, the main economic phenomena and institutions are undergoing modernization processes, changing their qualitative and functional composition. The main economic factor has also changed. The main role today belongs to information [1] and scientific and technological progress [2].

The world is witnessing the transition of countries to an innovative path of development. But this requires the development and implementation of a national innovation system (NIS) as a fundamental element in the transition to a new economic order. This system should have such characteristics as:

- competitiveness;
- the Trinity of the state, science and business sector in the implementation of innovation;
- developed infrastructure;
- high-quality human capital, capable of innovation and creativity.

As part of the formation of the national innovation system, measures should also be taken to increase the demand for innovation from a larger sector of economic sectors; stimulate scientific activity and overcome the disintegration of the innovation infrastructure [3, p. 3-8]

The national innovation system is aimed at supporting the active development of the economy by increasing the level of activity and competitive advantages of economic entities. The effectiveness and result of NIS can be determined by factors such as the availability of:

- developed infrastructure;
- intermediary institutions that establish links between consumers and producers of innovations;
- state political activity in the field of innovation;
- institute of intellectual property law (IP);
- modernized education system.

As previously noted, infrastructure is a component of the innovation system. Infrastructure is a set of organizations (institutions), carrying out scientific, business, managerial, entrepreneurial, legal and regulatory activities together for the development, implementation, commercialization and protection of IP (innovations). Organizations that are part of the innovation infrastructure support and ensure the entire life cycle of innovation: from idea to serial production.

Among all the structural units of the innovation structure, the most important ones should be noted, which are the basis. It is the institutions of science, law and the state.

*First, the Institute of science.* This institution includes all institutions that are associated with the educational, scientific, technical and research sphere. The involvement and direct participation of representatives of the scientific and technical field requires to create innovations: scientists, theorists, engineers, researchers, designers, whose ideas should be aimed at innovation.

In Germany, the teaching staff of universities before the amendments of February 07, 2002 in § 42 of the Law on official inventions of workers in Germany of July 25, 1957 (Gesetz über Arbeitnehmererfindungen) (hereafter – the Act) and their entry into force "were entitled to any discoveries they made. Now the final decision on who has the right to the invention (and, as a consequence, the right to intellectual property) depends on whether the invention was made at work (Diensterfindung), or the invention was made independently (freie Erfindung) [4, p. 743-758]. In addition, the legal regulation of inventions created in universities will be carried out by analogy with the law of the USA, which means that all rights to inventions will belong to and be used by the universities themselves or their own structural units for the use of patents" [5, p. 80]. The amendments to the general provisions on inventions of all full-time university teachers, introduced in Chapter 42 of the Act, may be used by universities in accordance with the General provisions of the same Act, which means the use of the rights to the invention by

the employer after 4 months after the submission of the invention by the employer. The purpose of the new provisions of the Act is to stimulate this activity in universities by providing them with legal means for the protection of inventions and their introduction into economic circulation [6]. The Amendments, which came into force on February 07, 2002, had a negative impact on the authors' right under the RIA order, which caused a certain impact among University professors [7, p. 912]. After all, it seems to us that freedom of research and learning implies a guarantee that the scientist retains the right to use his or her research, which is enshrined as a service invention.

Modern science in Russia is mostly engaged not in its own applied developments, but in developments that are interesting for the state, i.e. capable of meeting the current needs of society and increasing the pace of economic growth of the country by meeting the needs of both citizens and the state. That required the reforming of the entire scientific sector of the country. Scientific activity should be dispersed among all research and development centers. In this regard, it is necessary to implement a set of measures for retraining: in addition to scientists, it is necessary to form professional scientific managers. The presence of management skills of the scientific intellectuals will improve the efficiency of work, make the processes and the relationship of organizational structures more flexible, thus delineating the responsibilities and functions of the supervisor and manager of research-and-development (R&D) organizations [8, p. 116].

Hence, there is a need for reforms in the personnel of R&D structures. This is the development of new educational standards and programs for the training of managers, "specialists in the audit of scientific activity" in the scientific field [9]. Furthermore, in connection with the digitalization of the Russian society, educational programs are needed, both at the level of bachelor's degree, "specialty", and master's degree "lawyer in the field of innovation and business law", "lawyer in the field of digital economy" [10].

Scientific managers, within their professional duties, should develop all stages of the project, provide for all possible probabilities and consequences, evaluate the commercial potential of ideas and their possibilities of implementation, monitor the legal basis of the results of intellectual activity, and develop management strategies. Within the framework of management strategies, scientific managers should be able to analyze theoretically developed ideas according to such criteria as scientific and technical novelty, the possibility of introduction into mass production, commercial profit, as well as to search for and choose the most rational ways to achieve certain results.

The integration of knowledge in the field of Economics, management, law and intellectual property is the basis for the formation of new specialists in demand not only in the public sector, but also in the public sector.

*In addition to the scientific sphere, it should be noted the importance of the educational environment as the main component of all elements of innovation*

*infrastructure*. It is education that educates and trains future specialists in various fields: starting with the operator and ending with the leader. Therefore, the Institute of education should undergo a number of reforms in order to provide the entire infrastructure with modern specialists in demand.

Today, the educational space should be transformed from a monopolistic cultural model into an integration one, whose distinctive characteristics are expressed in:

- openesses;
- high dynamics of development;
- active and large-scale use of information and telecommunication systems;
- mobility of students;
- specific and individual orientation of the learning process;
- the union of education and science;
- trends in the creation of a single educational space.

Until recently, the existing educational standards were not relevant and capable of solving social and economic issues of the state; they had low competitive advantages; they did not provide the labor exchange with the required specialists, etc. As previously mentioned, in the scientific sphere, managers are needed who would be engaged in the development, evaluation and commercialization of the results of innovative processes.

Innovation activity imply a trinity of science, entrepreneurship and the state. It is known that the sphere of entrepreneurial activity then works effectively when it is based on a new idea, namely the implementation of an innovative project. There are three types of business ideas: the idea of increasing the market of existing products, the idea of market-seeking with new products, which is created for the first time on the basis of the latest scientific achievements, and the idea that explains how such a market will be conquered. But this is an economic characteristic. From the legal point of view, it is necessary to clearly distinguish all stages of the implementation of an innovative project both at the stage of development of an innovative product and at the stage of industrial application. «This cycle – production–science–production – schematically looks as follows: the tasks set by the production for the resolution of science, research – scientific discovery–technical solutions (inventions)–new technology – production–science (tasks, searches, hypotheses)» [11, p. 138]. To bring innovative developments into the market space, specialists are required whose competence would be to protect and manage IP objects not only within the R&D institutions, but also within the entire economic space.

It is the business sector that introduces innovations to the markets. And to maintain its competitiveness and protect against counterfeit products requires lawyers to protect IP.

Thus, it can be concluded that the construction of an effective national innovation system is impossible without the modernization of the Institute of science and education and their improvement in order to ensure the socio-economic development of the country.

*The next group is the institutions of law.* Innovations - novelty, ideas, products of creative and mental activity of a person. The Law on Science in article 2 means innovation as a new and significantly improved product (goods, services) or process, a new method of sales or a new organizational method in business practice, the organization of jobs or in external relations. O. V. Sushkova believes that the concept of "innovation" in the civil law science should be understood as a set of new knowledge derived from innovative activities aimed at creating or improving the results of intellectual activity (device, method, substance), as well as to change the socio-economic and production processes (creation and implementation of innovation as a product), which are effectively implemented in the market [12, p. 9]. However, there is no general consensus regarding the conceptual apparatus in the field of innovative, entrepreneurial, scientific and educational spheres.

As a part of the innovation strategy, one of the main aspects is the law. The legal component of innovative activity contains the essence, conditions and rules of application of the legislation, regulating the processes of creation and protection of the results of IP.

Innovation refers to the objects of IP, consequently, the creators of real (goods, material) and non-material (services, technology, solutions) innovative products, i.e. the result of innovation, get them copyright and related rights.

The structure of scientific and technical products includes the results of research (reports with state registration), publications, reports, applications for patenting of IP, the internal regulatory framework that regulates the innovative activity of the organization (standards, instructions and other documentation).

Protection of the results of IP used in the creation of innovative products is carried out by obtaining patents and certificates for the relevant results. Mikhaylov A.V. notes that "in business law, especially in such areas as licensing, registration, technical regulation, etc., there are a large number of procedural rules. This in itself implies special requirements for regulators, which should ensure the clarity and validity of the law, as well as the mutual compliance of procedural and substantive rules [13, p. 136].

It is the mechanism of the institute of law that acts as an incentive to conduct innovative activities of enterprises and research institutes. An effective, fast, simple and electronic procedure for applying for a certificate or patent, securing the owner of the exclusive rights to the result of mental and creative activity of a person, is a favorable condition and motivating factor for the creation of innovations. It should also be noted that the legislative aspect establishes a framework for the

implementation of lawful actions and a system of measures for the application of sanctions for non-compliance with authorized acts.

The patent system protects all stages of new product development that begin after scientific research. One of the main means of the patent system is self-regulation tools, which can be used not only by patent owners, inventors (authors of inventions), but also by business entities. Therefore, the patentable inventions, patents and licenses which are a part of this system can act as a control element and cooperation in the field of R&D, activity on their joint commercialization by various subjects of a turn at the solution of partner strategic tasks in the adjacent competitive markets, development of various standards, technologies, etc. [14, 446]. To the author (or group of authors) the authorized state bodies issue the official document which grants exclusive rights to owners, guarantees protection from the state and observance by the third parties of freedoms and rights of authors.

Currently, the imperfection of the protective system and legal framework is the cause of copyright infringement and distribution of non-original products: the use of someone else's name, insignia, similar, close to the degree of confusion of goods, etc.

Unfortunately, Russian legislation, which is often amended, only partly contributes to the development of innovative processes, both in business and in education. Excessive money and time costs required for the assessment, analysis, verification, registration and other actions reduce the activity of innovators and prevent the introduction of their ideas into mass production. Therefore, today we need to improve the institution of law to create a valid legal space for innovation.

Reforms in the field of science, education and law cannot be implemented without the participation of the main subject - the State. It is the institute of the state aimed at creating all the necessary conditions for the creation of a NIS.

The duties of the state apparatus include the formation of the general course of development of the country, in particular, the definition of innovation state policy. The innovative state policy establishes the general objectives and the course of development of innovative activity of the country, forms the list of the main tasks which solution promotes achievement of the planned results.

One of the priority objectives of the policy may be the following provisions:

- creating the necessary conditions in the field of economics and law;
- supporting domestic producers and increasing the level of competitive advantages of their products through the creation and dissemination of innovations;
- participation in the development of “market relations and entrepreneurship in the field of innovation”;
- state support and promotion of innovative enterprises;
- facilitating the dissemination of partnerships among actors engaged in innovative activities;

- support of domestic products on the world market and increase in exports.

Innovation policy of the state acts as a binding and fundamental component for the formation and development of the NIS.

The institute of the state is directly involved in each of the stages of innovation. The tasks of the state at each stage include the following activities [15, 147]:

**scientific research:** at this stage, the state should allocate and provide financial and material resources from the budget to institutions engaged in the main directions in the development of science and technology, as well as support their activities; develop a system of open access to information with scientific, technical and commercial content (for example, databases of intellectual activity results are freely available on the Yandex. patent platform);

**applied research and development:** contribute to the formation and implementation of infrastructure capable of commercializing developments; ensure the protection of intellectual property and the exclusive rights of residents of the country both within the state and abroad;

**introduction to the market:** maintenance of preferential policy with respect to institutions and enterprises engaged in innovative activities (subsidies and loans, tax exemption - tax holidays) and protectionist policy with respect to foreign producers (the establishment of high duties and other various barriers to imported products in order to protect domestic) for example, such benefits are provided for the Innovation Center «SKOLKOVO» [16], special economic zones [17];

**market expansion:** at this stage, the state is faced with the task of "increasing the number of persons" whose interest is aimed at the dissemination of innovative products;

**the maturity of the product:** this stage is characterized by the implementation of a set of measures to find and attract additional, non-state sources of capital in the activities (formation of funds, the establishment of grants, etc.);

**recession:** at the final stage of production, the state is faced with the task of stimulating the participants of the innovation process to continue their activities (creation of modified analogues (including in medical, pharmaceutical activities), improvement of individual components, production of additional accessories, etc.) by providing various kinds of state preferences.

Today, innovation, and, consequently, IP is crucial in the socio-economic development of the country. They determine the modern competitive advantages of not only products, but also enterprises. Therefore, public innovation policy should take timely measures related to «...creation, involvement in economic turnover and protection of IP activity and IP objects...» [18, 7].

Noting the above tasks and objectives of the state in the field of innovation, it is possible to identify several areas of innovation state policy [19, 539]:

- provision of financial resources to the subjects of innovative activity;
- development and implementation of the project, including: firms providing services in the area of marketing, engineering and consulting; networks of investment commercial banks and venture funds; technology exchanges (promoting innovation); creation of an effective market infrastructure, as well as within the state program construction of technology parks, science towns and other facilities related to innovation;
- «development of common rules and mechanisms for coordination of activities of all subjects of the innovation market on a mutually beneficial basis of cooperation on interests at different stages of the innovation cycle». The result of this direction is an increase in the volume and scale of production, the coverage of the mechanism of other areas of activity.
- as part of the implementation of Russia's state policy in the sphere of digitalization of society, it is necessary to create a single information space and standards for information exchange; it is necessary to make greater use of digital services that allow entrepreneurs to obtain more information about potential business partners.

It also notes the need to increase not only the funding of research and development but also create a comfortable environment for private business in order to retain the results of research and development in the country in the form of intangible assets, as well as increase exports of finished high-tech products [20, 91].

In summary, we can make several conclusions on the role of the previously mentioned institutions in innovation development. In the process of socio-economic development is not only a change and improvement of people, technologies, but also the emergence of new phenomena, the formation of new processes. Evolution is also taking place at the institutional level. Each of the institutions reviewed has certain roles and functions that are interrelated. Science makes forecasts, carries out various examinations and researches, and as a result provides new information, idea or knowledge on the basis of which there is a discovery and theoretical justification of the latest development.

Highly qualified specialists of interdisciplinary training are necessary for the implementation of scientific functions and for the further development and implementation of developments in the production. Such professionals should have a sufficient knowledge base and the necessary skills to conduct marketing research, evaluate the results of intellectual activity and its possible commercialization. Specialists should promote innovation not only at all stages of production, but also in the market. Training and the creation of conditions for improving competence and skills is the task of modern education.

In order for all of the above-mentioned institutions to function and contribute to the development of a national innovation system in the country, the participation of the state is required. The state bodies are charged with the task of regulating activities through the adoption of appropriate regulatory legal acts; timely provision of funds from the state budget; to maintain a stimulating tax policy and, finally, to create and maintain a «favorable innovation climate» in the country.

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# LEGAL AND ORGANIZATIONAL ASPECTS OF THE EXECUTION OF THE PUNISHMENT IN THE REPUBLIC OF KAZAKHSTAN

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**Abstract.** Execution of punishment is the final stage of the law enforcement process in the fight against crime. From the effectiveness and quality of the organization of the execution of punishment depends the completeness of the goals of criminal punishment. As the practice of the execution of criminal punishments and media said, adopted on July 5, 2014 and came into force on January 1, 2015, the Penitentiary Code of the Republic of Kazakhstan (further - PC RK) shows the indicator of the inevitability of punishment and at the same time humanity of the state, which is based on the Constitution of the country.

**Key words:** execution of sentences, Criminal Code, liberalization of the criminal legislation

The mission of the PC RK is aimed at legal regulation of the effective implementation of the final stage of the law-enforcement process - the execution of sentences in relation to the perpetrators of crimes. In addition, the PC RK implements the objectives of punishment, enshrined in Article 39 of the Criminal Code of the Republic of Kazakhstan (Concept and objectives of punishment), as well as in Article 4 of the Penitentiary Code of the Republic of Kazakhstan (Goals and objectives of the criminal executive legislation of the Republic of Kazakhstan). Criminal law and criminological problems of the execution of punishment consist in the fact that the very punishment as a criminal law means of influencing a person who has committed a criminal offense generates new consequences and affects the execution of the punishment. Thus, Article 39 of the Criminal Code of the Republic of Kazakhstan states that punishment is a measure of state coercion imposed by a court sentence. The punishment is applied to the person found guilty of committing a criminal offense, and it consists in the deprivation or limitation of the rights and freedoms of this person provided for in this Code. The punishment is applied in order to restore social justice, as well as correct the convicted person and prevent the commission of new criminal offenses both by the convicted person and by other persons. Punishment is not intended to cause physical suffering or humiliation of human dignity [1, p.37].

In Article 4 of the PC RK (Goals and Objectives of the Penal Enforcement Legislation of the Republic of Kazakhstan), the goals of the Penitentiary Enforcement Legislation of the Republic of Kazakhstan are the restoration of social justice, the correction of convicts, the prevention of new criminal offenses by both convicts and other persons. In accordance with the above objectives, the

objectives of the criminal executive legislation of the Republic of Kazakhstan are: 1) to regulate the procedure and conditions for the execution and serving of sentences and other measures of criminal law influence; 2) determination of remedies for convicts; 3) protection of the rights and freedoms of convicts; 4) assisting convicts in social adaptation. Execution of punishments and other criminal law measures is not intended to cause physical suffering or humiliation of human dignity [2, p.12].

If we turn to the history of the development of sovereign Kazakhstan, then our criminal policy in the first years from the date of the acquisition of sovereignty was forced to be punitive. And this is not by chance. The development of the Criminal Code and the Criminal Executive Code of the Republic of Kazakhstan came in the second half of the nineties. It was a very difficult time for the country. The collapse of the Soviet Union, the proclamation of its own sovereignty, the collapse of the socialist way of production and the transition to market relations, rampant crime and chaos in the economy. Therefore, the existing Criminal and Criminal Executive Codes of the Republic of Kazakhstan, adopted respectively on July 16, 1997 and December 13, 1997, enacted on January 1, 1998, were documents of the transition period and their mission was aimed at stabilizing the difficult situation in the country. In modern conditions there have been many positive changes in the economy of our country, in the minds of citizens, in general, the whole situation in the state has changed in a positive way, the country's access to the international level and the adoption of a number of international obligations, including in the field of the execution of punishments. Therefore, there is an objective situation when the society, the penitentiary system of the Ministry of Internal Affairs of the Republic of Kazakhstan, being a part of this society, as well as the convicts themselves must reconsider the convicts and return them to normal life, without turning the latter into outcasts of society and eternal enemies of justice. Given the closeness of the system of execution of punishment, it, as a rule, remains alone in the implementation of the punishment goals set forth in the Criminal Code of the Republic of Kazakhstan, and independently tries to solve all existing problems, without the participation of civil society, that is, as a rule, independently, thereby involving themselves to great criticism from human rights organizations, convicts and citizens of our country. Dissatisfied with the system of execution of punishment in our country is becoming more and more. Thus, according to the Committee of the Penitentiary System of the Ministry of Internal Affairs of the Republic of Kazakhstan, over a million and a half people passed through correctional institutions during the sovereign development of Kazakhstan. To this number, if we add more family members of convicts, relatives, and friends, this figure will increase by several times. The problem of the execution of punishment is largely incorporated in the content of the Criminal Law of the Republic of Kazakhstan itself. Analysis of the activities of the courts for the years 2000-2010 showed that during the specified

period of time, due to the content of the articles of the Special Part of the Criminal Code from 1997, especially the sanctions provided, it was used quite often when convicting persons who committed crimes such punishment as imprisonment. As a result, an average of 18–20 thousand convicts were sent annually to correctional institutions.

For Kazakhstan, with its population at that period of 16-17 million people, this was a very large number. According to the prison population index, Kazakhstan continues to be in the leading group of countries, but it should be recalled that in the early nineties, our country ranked third in the world in the prison population index, after the United States and the Russian Federation. Penitentiary environment, which was formed in correctional institutions, in general, despite the noble goals of criminal executive legislation, enshrined in part 1 of article 4 of the PEC of the Republic of Kazakhstan [1] (restoration of social justice, correction of convicts, prevention of the commission of new criminal offenses by both convicts and other persons) negatively affects any person. The penitentiary environment humiliates some by lowering them irretrievably to the lowest level, others breaks, cripples others, kills fourths, takes fifths to the criminal world and makes them respected individuals in the underworld, sixth, raises and returns to civil society, turning the latter into national heroes . In life, there are other options for the development of personality in correctional institutions. This mechanism of negative action on a convicted person is revealed by the well-known scientist G.F. Khokhryakov, who notes that a prisoner is doomed to be among his own kind - those who, like him, are being humiliated because of the loss of status. He cannot leave prison and try to enter a respected group in a new place and gain authority in it, as free people sometimes do when they are fiascoed and begin a new life in a different environment [3].

Kazakh scientist A.A. Eskendirov, in whose opinion, the main contingent of convicts is a society of pedagogically neglected people whose ideas of honor and dignity, friendship and mutual assistance are expressed in a different plane, differing sharply from those that exist among law-abiding citizens. In the process of personal observations of the author, communication with correctional officers, former convicts, and the impression was created that certain categories of convicts could easily be corrected without isolation from society. It would be necessary to achieve such a correlation of law enforcement practice, in terms of the appointment of certain types of punishments, to such a provision when it comes to the execution of this type of punishment as imprisonment, that is, the isolation of a convicted person from society from the moment it was sent until release from the correctional institution. We will give our reasons. How can social justice be restored when it comes to murder or rape (we can talk only about partial recovery). Or, as far as possible in the process of sentencing, which is a measure of state coercion, do not cause physical suffering (use of the same handcuffs, escort under escort, movement in a special vehicle, etc.) or humiliation of human dignity (putting a person in a

cell, during a trial cell, television shows, publications in the media, etc.). The Kazakh scientist B.K. Shnarbayev is absolutely right that punishment always causes a certain deprivation and suffering to a criminal. They can be of physical, moral, material and other nature. When convicted to deprivation of liberty, the convicted person is limited in a number of personal rights and, most importantly, freedom. When a fine is applied to a convicted person, the property is confiscated; his financial situation deteriorates [4]. 19 Criminal legislation must be harsh, even cruel, against violent criminals who are convicted repeatedly, who commit crimes intentionally and their presence in society represents an increased danger to those around them. They should certainly be isolated from society. At the same time, criminal law should be humane with regard to persons who have committed crimes for the first time, especially when it comes to crimes committed through negligence. According to U.S. Dzhekebaeva correct understanding of the objectives of criminal punishment is of great theoretical and practical importance. It is well known that in society nothing is done without conscious intention, without the desired goal. From this it becomes clear the importance of a clear understanding of the goals of criminal punishment. Objectives determined by legislation affect, on the one hand, the choice of means, and on the other, the means chosen influence the way this goal is realized.

Knowledge of these complex dependencies is necessary both for the improvement of legislation and for its practical application [5]. Especially since various restrictions are directly provided for by chapters 16 General provisions for the execution of a sentence of imprisonment (Article 90 Direction of convicts to serve their sentences; Article 91 Relocation of convicts; article 93 Reception of convicts to institutions); 17 The mode of serving the sentence in the institutions and the means to ensure it; 18 Conditions of serving the sentence in institutions. Rights and obligations of convicts of the Criminal Executive Code of the Republic of Kazakhstan [2]. An interesting position on this issue is the legislators of the Kyrgyz Republic and the Russian Federation. Thus, in part 1 of Article 43 The concept and objectives of punishment in the Criminal Code of the Kyrgyz Republic, defining punishment as a measure of coercion, the legislator in brackets indicated the word "punishment", which more accurately, in our opinion, reflects the content of the punishment. At the same time, in part 3 of this article, it is stated, as in Kazakhstan legislation, that "punishment is not intended to cause physical suffering or humiliation of human dignity". Unlike Kazakhstan and Kyrgyz criminal legislation, Article 43 of the Concept and Purposes of Punishment of the Criminal Code of the Russian Federation [6], in our opinion, is very correct, the article does not contain such wording that "punishment is not intended to cause physical suffering or humiliation of human dignity" because as we noted above, the fact of sending a convicted person to a correctional institution already provides for the infliction of physical suffering, as well as humiliation of human dignity. Moreover, the wording of the purposes of punishment enshrined in the criminal

legislation of the Republic of Kazakhstan is reflected in Part 1 and Part 3 of Article 4 of the Purpose and Objectives of the Penal Enforcement Legislation of the New PC RK "The execution of punishments and other measures of criminal law influence is not aimed at causing physical suffering or humiliation of human dignity". It seems, that due to the presence of such formulations in the criminal legislation of Kazakhstan, criticism in the media by non-governmental organizations, human rights defenders and lawyers of the penitentiary system of the Ministry of Internal Affairs of the Republic of Kazakhstan, which provides an important and crucial stage of law enforcement as the execution of punishments, has become not uncommon. For example, in the pages of the well-known, readable and very popular Kazakhstan newspaper, "Vremya", answering questions from a newspaper correspondent, the PRI (International Prison Reform) Regional Director for Central Asia Azamat Shambilov in March 2017 gave a very negative assessment of our penal system, saying: "I do not believe the leadership of the Ministry of Internal Affairs and the CCES, when from high tribunes they say that some colonies comply with international standards. I visited 25 leading countries of the world, where I studied the experience of their prison system, was in our zones and responsibly declare: there are no such institutions in Kazakhstan! And in order for them to appear, the CCES should be withdrawn from the Ministry of the Internal Affairs" [7].

I think that human rights activist A.Shambilov, criticizing the activities of the bodies executing punishment in Kazakhstan, proceeded primarily from the requirements of the current Criminal and Penitentiary legislation of the Republic of Kazakhstan, where the previously indicated impracticable norm is fixed. In our opinion, we should speak only about the punishment for what was done, and the content of the punishment, that is, the punishment, should correspond to the gravity of the crime committed. Then social justice and the preventive role of criminal law will be ensured. It is impossible not to notice that in the new Criminal Code of the Republic of Kazakhstan of 2014, which came into effect on January 1, 2015, such type of punishment as imprisonment (744) again prevails, then comes a fine (471), then correctional work (468). Restrictions on service (342), confiscation of property (264), involvement in public works (152), arrest (150), death penalty (12). As we see it, in order to increase the efficiency of the execution of sentences, it is necessary to reduce the burden on correctional institutions, by excluding from the sanctions the articles of the Special Part of the Criminal Code of the Republic of Kazakhstan such punishment as imprisonment with social, economic and legal negative consequences and apply it only when other types penalties did not yield the expected results. Moreover, the well-known scientist V.N. Kudryavtsev, drew attention to the fact that one of the paradoxes of isolating people in places of detention is that when they are placed there for committing crimes and in order to correct themselves, they commit new crimes in these places, sometimes no less serious. This fact, in the opinion of the cited scholar, once again points to the

ineffectiveness and impotence of the correction of criminals through isolation from society [8]. Further V.N. Kudryavtsev points out that the strategy of isolating a criminal from society is becoming obsolete [8]. In addition, it would be necessary to revise mandatory penalties established by criminal law. In our opinion, it is necessary to revise the types of punishments provided for in Article 40 of the Criminal Code of the Republic of Kazakhstan, taking into account the public danger of the crimes committed and the identity of the criminal himself. For example, it would be possible to work out the possibility of introducing new types of punishments alternative to deprivation of liberty, such as, for example, exile and expulsion and others. Also in Article 40 of the Criminal Code of the Republic of Kazakhstan "Types of punishments" one should add, following the example of the Russian Federation, such a type of punishment as life imprisonment.

At first glance, life imprisonment is logically absorbed by such type of punishment as imprisonment, however, given that this type of punishment is provided for in 19 articles of the Criminal Code of the Republic of Kazakhstan as an independent type of punishment or alternative to the death penalty, (the death penalty is provided for in 18), under the conditions of the moratorium declared by our country on the execution of the death penalty, life imprisonment is the only exceptional measure of punishment and may well claim to be an independent type of punishment. It is necessary to reduce the time limits of imprisonment. According to Article 46 of the General Part of the Criminal Code of the Republic of Kazakhstan 2014 "Imprisonment", such terms of imprisonment are provided for. Imprisonment for crimes committed under the Special Part of the Criminal Code of the Republic of Kazakhstan is established from six months to 15 years, and for especially serious crimes - up to 20 years or for life. For careless crimes, the term of imprisonment shall not exceed 10 years. In the case of partial or full addition of the terms of imprisonment in sentencing on the aggregate of crimes, the term of imprisonment may not exceed 25 years, and on the aggregate of sentences - not more than thirty years. As you can see, there is a significant increase in the terms of imprisonment compared with the old criminal legislation of our country.

Taking into account many circumstances related to the conditions of detention of prisoners, with the possibility of completing the correctional process in a shorter time, with an increasing number of prisoners, with an increase in the cost of their maintenance, as well as the desire of Kazakhstan to improve the country's prison population index, would consider it appropriate revise the provisions of the newly adopted Criminal Code of the Republic of Kazakhstan in terms of terms of deprivation of liberty, setting the terms of imprisonment not exceeding 10, and in special cases - up to 15 years. In addition, the said article should also envisage some restrictions on the use of this type of punishment, taking into account the age of the convicted person (do not apply deprivation of liberty to persons over 63 years of age), state of health (to make an exception for disabled people of groups 1 and 2) and much more. This practice of restricting the use of a

particular type of punishment has already been successfully applied in the Criminal Code of the Republic of Kazakhstan. Thus, Article 45 of the Criminal Code of the Republic of Kazakhstan (Arrest) does not appoint arrest to minors, pregnant women, women with young children, men raising young children alone, women aged fifty-eight and over years, men aged sixty-three and over.

It should be remembered that the priority of the state's activities is to ensure the rights, freedoms and legitimate interests of the individual. This requirement also applies to convicts who are part of Kazakhstan's society. Therefore, along with coercive measures, the law also provides for other methods of influencing convicts. One of them is to stimulate the law-abiding behavior of convicts through the implementation of a progressive system in the process of serving sentences. The progressive system is a complex interdisciplinary institute of criminal and penal law, including several independent institutions, in the process of applying which the legal status of convicts varies depending on the degree of its correction, either towards expansion or towards limiting the scope of his rights.

The above problems and specific solutions will allow continue to work on finding new ways to liberalize the criminal legislation of the Republic of Kazakhstan, which significantly reduce the problems of execution of sentences.

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## FEATURES OF MANAGEMENT TRAINING AND SELF-EDUCATION

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**Abstract.** Rupture between the theory and management practice speaks about accruing crisis of administrative thought. Thus the teacher and the manager should organize process of advancement of the trainee and the organization in directions coordination of their vision and the purposes. Formation, management, training methods, professional skills, effective training, self-management, management skill.

**Keywords:** professional activity, reflexive competence, criteria of reflexive competence, self-control, self-esteem, component.

### **Introduction**

One of the main problems of today's Kazakhstan – the lack of managerial personnel necessary level, so the task of improving the quality of their training is very important.

The gap between theory and practice of management speaks about the growing crisis of management thought.

Currently, the majority of universities, leading training in this specialty, initial academic discipline management is taught at the early courses. Naturally, the bulk of the audience has little life and even less management experience. At the same time, it is generally accepted that the management – is both a science and an art, and that the acquisition of knowledge in this area is not possible without the relevant practical skills.

Therefore, the effective manager must learn to acquire knowledge, skills and some practical skills not only management, but also self-education (teaching).

Figuratively speaking, the leader must be not only the captain of the “ship-organization”, his navigator, who determines the direction, the steering driver who maintains the course, the mechanic who gives energy to movement, the boatswain who manages people, but also the designer or reenactor of changes.

Didactics (pedagogy part dedicated to the justification of organizational forms, principles and teaching methods) traditional type allows to prepare good specialists for reproductive (copying) activities (V.P. Tikhomirov, 1998) [1, p.68]. Compound teaching and learning (independent work) at best provides uptake (storage) material. For it in domestic practice is usually a grade of "satisfactory". Good student achieves a level of understanding (can compare and select the proposals for the theory of certain practical situations). Excellent grade is to

achieve the level of mastery of the material (up knowledge and skills derived from the teacher or from books in the set standard situations). However, this is not enough to become an effective and competent person.

With regard to education and management is important to answer the question: how to fit the student, manager, organization in the environment of their activities? In this case, the teacher and the manager should organize the process of promoting the student and the organization towards greater harmonization of their vision and goals.

Management course in recent years has become one of the core courses in the preparation of specialists in the various sectors of the economy. At its base are read many courses, such as innovation management, financial management, etc. Therefore, it is understandable the appearance of a large number of textbooks for this course. Many of these books are translations of recognized foreign well-known books.

In this situation, not only the student but also the novice teacher is sometimes difficult to choose the material for the study and structure it.

The only way out of such difficulties can be the maximum structuring, schematization, and if possible, the formalization of the presentation of the material, and as a result of its maximum simplification, getting rid of particulars. This contributes to the formation in students of a certain core of mastering the material, where the student is already freely oriented, imagining which management problems can be assigned to certain variations of presentation and examples.

Trying to find a way out of this situation, in 1993 at the Department of International Business of the Nizhny Novgorod State Linguistic University named by N.A. Dobrolyubov (NGLU) started work, which aims to – investigate the possibility of applying new teaching methods to help students learn the subject "Modern Management", acquire professional management skills.

The student must realize that modern management – the science, rather than a set of arbitrary recommendations, and see the general, if I may say so, "theoretical outline" of the science that is focused on particular.

Currently, there are different approaches to the definition of what is meant by professional management skills. The most general definition suggests that these skills should include the ability to apply in practice the basic methods and techniques accumulated management theory.

Another approach limits the understanding of the subject to those skills that flow from the structure of the managerial daily activities. The manager should be able to speak, make decisions, give verbal and written orders, conduct business negotiations, listen carefully to the interlocutor, etc. Usually, this list includes other elements of personal work equipment.

Found approach and having a purely academic purpose. According to this view management theory can comprehend the lectures and in conversations with

other types of classroom. Skills as future manager can obtain or business games in a different form (to a certain extent is the concept of "case studies"), or in the actual work, followed by a sit down again at the desk for a discussion of lessons learned (for example, in the preparation of higher managers in a number of schools in France).

The modern concept of effective teaching skills of professional managers provides a different approach. In the early 90s, when NGLU started training younger students the fundamentals of modern management, it turned out that the main difficulty is the lack of students the opportunity to acquire practical skills of management. Business games students introduced more confusion about the real problems that they have to meet in practice. Then, an attempt was made to enter into employment in management exercises of self-management (technology of personal work), so that students can learn how to manage yourself and your time.

The development of self-management can be divided into three stages:

first- is associated with the experience of individuals who by trial and error checking efficiency of different techniques in the art of personal work. Beginning in ancient times, it continues to this day in the life of every human being. D. Granin in the story "This strange life" has left us a vivid example of "the accumulation of personal experience," by the hero of the book, biologist A. Lyubischev [2];

second- the division of labor is required in this area. Specialization is its consequence, led to the development of such abilities as memory training, a rational reading, etc. Today, the division of labor self-management continues to deepen. Along with the traditional sections that have already become (business telephone conversation, etc.), such developments as the management of emotions, the art of listening to the interlocutor, etc. are offered. Progress in technical and human sciences has had an undoubted influence on this stage of self-management development;

third- due to the systematization of knowledge in the art of personal work. It consists in determining the necessary sections of this science and the construction of one interconnected whole. Perhaps one of the first works of this kind is a recognized management book classic Peter Drucker's "effective manager" [3, p.125].

Which control method is better? On this question the modern theory of answers: "There is no better control systems, all are good in relation to a particular situation."

The main thing that should get the audience in the course of his study - the ability to practice the scientific method, the basic elements of which observation, analysis, synthesis. This allows students to decide questions of optimization of management skills as the ability to negotiate, make decisions, and others. At the request of the teacher in this course may be introduced sections on memory training, time management, work skills in a team, etc., but not as an end in itself,

but only as an illustration of the application of the scientific method to solve a specific management tasks. In addition, its resources (physical, psychological, creative, rational, moral) using the system and situational approach allows students to put into practice the knowledge obtained (Table 1).

Table 1 Systematic - situational approach to the practical application of acquired knowledge

| Control systems | physical | moral | rational | Psychologic | CREATIVE   | PERSONALITY  |
|-----------------|----------|-------|----------|-------------|--|--|
| Self-regulation | ...      | ...   | ...      | ...         | free fantasy   | a control on an unconscious level,                 |
| Analysis        | ...      | ...   | ...      | ...         | Analysis of their creative abilities                       | Continuous evaluation of the actions and abilities |
| Adaptation      | ...      | ...   | ...      | ...         | "Maybe you're not a generator of ideas, and an analyst?"   | Device   |
| Rationalization | ...      | ...   | ...      | ...         | Overcoming psychological inertia                           | Improvement of their actions                       |
| Development     | ...      | ...   | ...      | ...         | Creative "conversion of the dangers in the possibility of" | Conscious change yourself                          |

For example, there was a constant conflict between the assembly and stamping departments in a company car. It seemed that their managers cannot agree about anything. In a detailed examination of the consultants found that the bonus system gave rise to conflicting relations, as both department prized by reducing waste.

What impelled bonus system factory directors? Director stamping production turned out to be interested to supply assembly production very minimal kit of parts. Director assembly plant was interested in learning the details of the highest quality in order to reduce their losses. Ultimately, the assembly production seen in the manufacture of stamping its main enemy in the problem of reduction in metal losses. According to the recommendations of the consultants, the company changed the promotion system. Steel prized both manufactured together for reducing the overall loss in both industries. A month later, the two leaders worked together like old friends. Five years later, the company changed and the system of bonuses, because the old system did not encourage the growth of product quality.

Defining the human factors in the situation, we must first identify the motivations of each character, which, as in the above example, can flow from a purely organizational and structural relationships.

Technique of the organization of innovation and the creative process of formation of new knowledge, skills and management skills considered at stages of the interactive dialogue of the tutor and the trainees and independent work with a synopsis; analyzes the characteristics of remote communication via special homework test mode.

To achieve the peaks in the mastery of a profession is important to "learn to learn and learn." Therefore, a training and self-study required participants to the main parties, the educational process. Teacher-counselor (tutor) and developing manager interested in the answers to the questions: "What is rational educational process in the core disciplines of profession?", "What is the profession and what the idea of a meaningful and efficient professionals?"

This is particularly important for the management system disciplines that require the formation or increase of the level of competence. Under the manager's competence understood as a set of three results of mastering the discipline of "Modern Management":

- knowledge of the amount of public or professional standard management of the second and third levels of education (Bachelor's and Specialist), the actual results of the formation of personality in the given field of knowledge (science);
- professional skills and some skills (the ability to automatically manifested) as a result of management experience and training;
- communication skills and work in a group of students as a model organization.

In this case, the main measure of competence can be considered as an effective manager of his preference for dialogue within and not outside the organization (with colleagues and subordinates). Substantive areas of competence (to improve it) are: change management products, services and management systems; resource usage; recruitment and selection of staff; creation and development teams; use of differences and conflict resolution; decision-making and motivation activities.

The self-motivating nature of learning is provided by a structure that meets the requirements of the four main levels of study of the discipline "Modern Management" (auditorium and independently):

1. Knowledge of theory and historical experience discipline (elementary-reproductive, primary reference level based on a brief, comparative problem, a schematic representation of the theory art discipline shaped supporting abstracts). Trained in the interactive consultation with the instructor and a study group has to exercise operational notes theory lead training or real examples of its application.

2. Understanding the terms, keywords and logical relationship to those disciplines.

3. Application of the theory in actual practice or training carried out on the basis of a set of tasks or on topics of discipline research in the form of tests, role-playing or gaming, analytical charts and tables. They allow you to structure the experience in the application of the theory (on video, in the manual, the trainees themselves).

4. Using the theory to meet new challenges (in the process of interactive training and management consulting in the period of full-time teacher communication with students, as well as an independent in-depth study of theories of reference notes, and tasks of practice, designed in the workbook).

Sections approach to the content and form of presentation of the subject "Modern Management" have the following meaning:

- in the introduction section and of each must address specific reasons given theory and materials and methods for their relevance presentation;
- the purpose of section (lists the main results of which are desirable to achieve a result in the study);
- Keywords and terms of section (represent a minimum of residual knowledge on the subject);
- section text (data set indicating the semantic and associative links between the concepts of the main sections of the considered discipline). A graphical representation of the material facilitates self-study, allowing a kind of "at a glance" capture the essence of the discipline;
- Key findings of the section (used to accelerate the recurrence of course materials in preparation for the exam or offset).

If we want to effectively approach the organization of educational process, we should start with a look at it from the position of students. We do not have to wonder:

"What we want to teach the student?"

Instead, we should ask:

"What we would like to allow students to make and / or understand after class?", "How is it linked to the needs and goals of the students?"

This change in emphasis means that people only should be taught:

- what they need to know (study – as a stage career, life);
- the fact that they do not know (the teacher – a change agent that creates an atmosphere of study);
- to what they are able to learn (the teacher controls the individual differences of students in the study group).

The process works (conducting classes, self-education etc.) must take place in the management loop. In this case, the teacher should play the role of a tutor, mentor, or "player-coach", organizing and advising process of self-education and practical application of management theory. It is therefore unacceptable and ineffective long lecture information type. It should only be put in them and achieve

the following objectives: to involve students in the issues and theories, focusing on their experience, taking into account the responses to the topic; show the main ways of solving problems; familiarize with the terminology of the subject. For the role of the manager is great mentor in the preparation of the provision for other forms of promotion and development of staff.

At the turn of the century annulled traditional psychological "contracts" organizations with their managers. Devotion, obedience, trust staff in exchange for security, service career, the development is not enough. All this provides a methodology of education and management of adaptive-reproductive (similar to copy and adapt to external changes).

In the first place demands are the knowledge and skills of work in conditions of uncertainty. Therefore, success can make organization and management, self-learning in the direction of ideal representations about their future. Higher-level managers should be able to use the theory to solve innovation challenges.

Nevertheless, the teacher about one-third of classroom time courses (less than 20 minutes for one performance with the obligatory dialogue - feedback from the trainees) is committed to communicate with students in the form of lectures, discussions, based on the mutual exchange of knowledge and experience in the area of discipline issues.

To reflect the logic of the argument of the lecturer, his explanations record need only citations, keywords, examples, and the names of theorists during the first publications on the studied subject. Student notes your questions, comments that appeared during the lecture. As a result, eliminates the usual drawbacks of many lectures: passive perception (knowledge of lecturer transferred into a standard outline of a student bypassing his mind); the need to overwrite large amounts of information available in textbooks without understanding; little scope for discussion due to the excessive number of students and lack of time.

The considered approach is consistent with the activities of non-legislative methods of education (development) knowledge and skills. Therefore, it does not apply the methods of traditional pedagogy (translated from Greek – childbirth) and anthropogogics (human beings) and autogogic (self-education)) or androgogics (Roger - in 1969, Noles - 1972, Goad and Hanson - 1981 1982.) [4, p.41].

The possibility of achieving the goals of education is increasing at a number of basic conditions of learning.

1) Provide each special allowances (syllabus for each subject specialization, curriculum, timetable for the entire period of study, interdisciplinary benefits that combine the logical design or related disciplines specialty with a similar structure).

2) The students are given the opportunity to link their own goals and objectives with discipline subjects. It directed quite realistic descriptions of specific situations and examples cited by teachers and experienced students. The biggest advantages of this are those who learn the discipline of absence, part-time

(remotely). They can perform tasks in relation to the problems of his workplace (the organization).

3) The use of positive behavioral norms in the group of trainees (feedback from the teacher, the interchange of information and experiences, mutual support, experimentation in the group as a structural division of the organization model).

4) Inclusion in the educational process not only intelligence, abilities, existing competencies of the participants, but emotions. It is about creating an informal, eulogistic, non-punishable working atmosphere. The personal progress of the trainees is monitored (it is not recommended to compare the success of one participant with another)

5) The redistribution of the teacher role. The primary foreground preparation of teaching materials and the organization of a special type of special training process

6) Conscious participation in the learning process as a stage of life or professional career. The motivation of using learning outcomes in life or in work, promotion ensures maximum involvement in the educational process.

The following teaching methods are possible:

- avoid their own lengthy monologues (the average adult can listen carefully to about 20 minutes at a time);
- use appropriate auxiliary visual aids for lighting the main points;
- use examples from their own experience and the experience of students;
- encourage students comments, questions and group interaction;
- to use the analogy and explain that any number of ways;
- present facts, statistics in an interesting way for students (structured experience, video summation needs of students);
- use tasks and exercises that give students the opportunity to receive feedback;
- summarize briefly repeat the key points at the end of a block of classes, thus highlighting the end of a certain part of the activity and giving the students the opportunity to tune in to the next part, by binding to the educational needs of the students;
- use questions to involve students in the work and to test their understanding of the topics discussed;
- correlate discussed topics with the group experience;
- to sum up at the end of classes in order to help the group to better remember the key points.

It is important to ensure the integration features of the group structure (varies according to the objectives, stages), personality characteristics tutor (emotion, experience, knowledge, completeness), the starting level of knowledge of students, the degree of confrontation tutors and participants (including between students).

The implementation methods should take into account the impact of factors and efficiency. Under the effective employment meant a concrete idea of what you

would like to achieve as a tutor in his course. Goals - is more specific, measurable wishes expressed in terms of what students will be able to do or do better as a result of the lesson. Goals include the transfer of skills, knowledge and attitudes of students, who are expected to change after the occupation.

Goals should be formulated as specifically as possible, and definitely, so you should avoid such words in the estimates, as:

to know the content of the discipline (it is rated as "satisfactory", or 40 ... 54 points);

understood (except for learning and remembering, are examples that are assessed as "good" or 55 ... 75 points);

aware (materials mastery level with practical application of the theory that "excellent" can be placed, or 76 ... 100 points).

Instead, use a different type of assessment, which is easier to determine:

be able to analyze, using a special technique known in the theory and practice of the studied subjects;

to be able to compare different theories, solutions to problems;

to distinguish the authors' proposal in this direction;

be able to explain, to justify the practical application of the theory in different management situations, synthesize theory.

Non-directive learning involves active discussion of books (teaching materials). With the first class tutor must give warnings and precautions for working with the teaching materials. To ensure the effectiveness of the educational process, it should during lectures combined with practical exercises to integrate the andragogy.

Tutor is recommended to do the following:

– giving students the opportunity to express their own wishes, set goals (problem or task) associated with the planned occupation of activity-interactive type;

– dealt with the difficulties students threads discipline, standard error;

– tying goal and the program material with the practical experience and real problems of students (conducted their survey with a choice of common problems);

– actively involve all students in the work of the group, using these materials, business and role-playing games, taking into account the development of the group stage;

– use a variety of exercises, assignments and presentation material;

– set aside time to provide feedback to students on various elements of lectures and practical exercises;

– set aside time to feedback on the results of the theme, using progress reports, etc.;

– provide feedback on the results of the previous sessions, emphasizing individual progress of students;

- consider any issues / concerns of students associated with the writing of the next job / employment conduct;
- to consider as many practical examples as possible, illustrate the course materials (mentioned as a tutor and students);
- use appropriate visual aids provide information (movies, advertisements for presentation of reports, etc.);
- rely on the experience of the group, creating a "supportive" environment group;
- review the following topics of the program, summarizing the needs of learners, defining their objectives, taking into account the personal and group success;
- giving students the opportunity to make suggestions about the program of the next material.

This not only contributes to the interest and motivation of students, but also helps to reduce the differences between the expectations and goals of the students and their own expectations and goals of the teacher related about their active participation in the process.

Therefore, the teacher is obliged to plan the structure of the discipline of educational material, using special tools planned.

They must act in such a way that the students:

- know the purpose, goals and problems of a specific material (preferably related to the objectives of the students);
- They knew in advance that they are going to be achieved by carrying out an assignment / exercise (for involvement in the educational process);
- were related materials disciplines with what they already know (for this problem and the examples cited by the tutor must be realistic);
- We had the motivation to make the necessary efforts to work with topics (must be a connection with the students' knowledge and experience);
- know how to work through the course material after the proposed material, for example, would know how to approach writing tasks performed extracurricular;
- actively participated in the discussion of the course material, and not just read, watched or listened to (provided the atmosphere of informal employment);
- receive constructive feedback on their work on educational materials and on their assignments;
- received assistance in understanding and reviewing their approach to training.

The choice of topics for training is determined by the work plan. Students receive a course plan, which reflects the main events of the course study program. Many tutors also hand out in advance to their students a list of topics that they intend to consider at each lesson. This is a very useful practice, because if you

count on the active participation of students in the work, it makes sense to inform them about the upcoming class agenda in advance.

When planning a list of topics that will be addressed in the classroom, it should take into account the "moments", presented in the course of the plan, namely:

- the time allowed in terms of the course of reading books, audio and video and these materials;
- the date of control and course works;
- the date of set-off (the examination);
- time devoted not prepare for the exam and consultation.

Advance preparation of students for classes can take many forms, and to be effective, in each case, it must fully comply with the program and be part of it.

Here are a few examples of such pre-treatment:

in advance of the lesson, give students read any article, case study or to deliver a specific problem in front of them. Ask them to prepare their responses and ideas that in the course of employment can be used as a starting point for group discussion;

ask students when reading the course materials to formulate their work problems with certain themes, which will then be discussed at the session;

ask the students to prepare their own small learning situations to discuss them in class;

ask them to find and bring to class interesting clippings from newspapers / magazines that are relevant to the topics of the next class.

During the first session before the tutor has the following objectives:

- establish contact with students and students with each other;
  - instill confidence in students;
  - Students encourage interaction with each other and form a group of mutual;
  - to establish the basic rules of the subsequent interaction;
  - improve students' motivation to learn;
  - explain the very education system;
  - make a review of the course;
  - provide additional practical information at his discretion;
  - identify students' needs and to identify how they can be met in the course of further education.
- What are the restrictions on the use of learning situations?

The main limitation is due to the fact that they may be perceived by students as a distraction from life and several academic as it involves the analysis and discussion of the situation or someone else's problem. From this it follows that it is necessary to select a material that can cause the greatest interest among students, and to organize work on it so as to ensure their active participation (for example,

using techniques such as brainstorming, discussions in small groups, role-playing games, and so on. d.).

Defining the problem is a critical step, as in the solution of any problem. It is clear that if the problem is incorrectly defined, and then the resulting solution at best will be the solution of another problem. At the same time, everything falls into place, if the problem is properly placed, that is defined and described.

Often, it is the definition of the problem is the most difficult for students. This is due to several reasons.

Firstly, in a real situation it operates many participants. Each of them has its own vision of the situation, its performance problems. Therefore, first of all, necessary to identify the owner (owners) problem, that is to realize someone needs to be addressed. Then, to understand how this problem looks from the point of view of its owner and other persons involved, what it is for them. It should be remembered that the students (in practice - groups of analysts, consultants) also has the vision, the idea finally their prejudices and stereotypes, a burden of the past experiences that can "weigh down" their perception.

Secondly, you must select the relevant factors in the current problematic situation, that is, those factors that are essential.

Third, you need to make sure that is really the problem, rather than the superficial symptom or ordinary representation of the problem. Very often, people consciously or unconsciously do not deal with the problem and its manifestations.

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# ANALYSIS OF MODERN WEB TECHNOLOGIES IN THE BUSINESS OF KAZAKHSTAN FOR THE DEVELOPMENT OF HUMAN CAPITAL

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**Abstract.** What is Internet technology? In simple terms, this is all connected with the Internet, such as forums, chat rooms, social networks, blogs and websites, email, landing pages (they are landing pages or one-page websites), sales funnels, specialized marketing tools, online stores, search engines, a huge number of programs and scripts for doing business through the Internet. The role played by the world wide web in business and commerce is much broader than just communication. These include making deals, advertising media, making purchases, making payments, receiving feedback and, most importantly, increasing the market for a particular company. After all, on the Internet, even a small company can be on a par with a large enterprise. Opportunity to cover a larger market, not only regional, but for example, the whole country, or go international.

**Keywords:** business analysis, human capital, web technologies in business, modern technology in business

What is Internet technology? In simple terms, this is all connected with the Internet, such as forums, chat rooms, social networks, blogs and websites, email, landing pages (they are landing pages or one-page websites), sales funnels, specialized marketing tools, online stores, search engines, a huge number of programs and scripts for doing business through the Internet.

The role played by the world wide web in business and commerce is much broader than just communication. These include making deals, advertising media, making purchases, making payments, receiving feedback and, most importantly, increasing the market for a particular company. After all, on the Internet, even a small company can be on a par with a large enterprise. Opportunity to cover a larger market, not only regional, but for example, the whole country, or go international.

After analyzing, I made a comparison of how much the approach has changed over the last 10 years in business with the advent of modern web technologies, which is shown in Table 1.

Table 1. Comparison of the market over the past 10 years.

| <b>Kind of activity</b> | <b>About ten years ago</b>   | <b>To date</b>   |
|-------------------------|--|--|
| Advertising             | In print, on television and radio, direct advertising at points of sale. | E-mail newsletters, contextual advertising, banner advertising, posts in social networks, thematic |

|                               |   |  |
|-------------------------------|---|--|
|                               |   | forums and websites, search engines, personal blogs and websites, CPA –networks.   |
| Communication with customers: | In person or by phone                     | Through various messengers, online consultants, with the help of call center operators, feedback forms, through social networks and forums   |
| Training                      | With the personal presence of the student | Online in any direction, from the teacher you like, to choose from anywhere in the world, without leaving your home.                         |
| Sale of goods and services    | From hand to hand, in ordinary stores.    | With the help of online stores, websites, sales funnels, groups in social networks, through online games and intermediaries on the Internet. |

What opportunities does businessmen use of modern Internet technologies?

- Unlimited opportunities for finding business partners, advertising and promotion their services;
- Organization of a virtual office, communication with remote representatives and branches, sale of services online, going beyond the geographical location of the company;
- Timely receipt of feedback from direct customers and flexible response to feedback;
- Reducing the cost of communication services through access to e-mail, digital telephony, social networks, etc .;
- Conducting market research, advertising campaigns, quick analysis of the effectiveness of the advertising strategy;
- Participation in electronic fairs, sales, auctions, sales through specialized sites;
- Non-cash remote settlements with customers, work 24 hours a day, 7 days a week

The list is endless, as new Internet technologies are entering the market every day, expanding the boundaries of online business.

However, despite the apparent simplicity and accessibility, successful access to the global Internet market is not always achieved. There are a lot of companies

that have invested serious money in the creation of websites, traffic systems, email-mailings and received a zero return and frustration. This happens if there was no exact goal, no preliminary analysis of the market on the Internet. Not studied competitors and their commercial proposals. There is no plan for further action. Often, incompetent marketers and analysts in the field of the Internet, but having vast experience in the offline business, are taken, which often turns out to be a failure, because The Internet market is completely different and those approaches that have always worked offline are simply not applicable to online. Another reason for the failure is inexperienced developers who will make poor mobile adaptation, thereby literally discourage all customers from mobile devices, or not working forms of feedback, and the application left by the client simply will not reach the company.

Modern Internet technologies offer a range of effective tools for conducting successful online business. These are blogs and websites, various online platforms and social networks, specialized forums / chats, e-mail messages of various kinds, automated sales funnels, content marketing, game mechanics, various types of targeted advertising, contextual advertising, SEO promotion and not only . The list is updated all the time with the advent of new tools. It is important to use these opportunities to respond correctly and promptly to new market trends.

Let's look at the main mistakes in the use of modern Internet technologies by online and offline companies that I cited in Table 2.

Table 2. Improved business management

| <b>Current state of affairs in business</b>  | <b>How can you improve</b>  |
|--|---|
| There are customers, but sales are low       | Conduct an in-depth analysis of the target audience, successful competitors and their business proposals. To determine for himself who he is - the ideal client, and why he is interested in our product. What we are better than other companies. Create a competent unique selling proposition, think over discounts and bonuses. |
| Weak return from advertising on the Internet | Use the technology "Native Ads", offering initially the value, and then trying to sell. Implement content marketing tools. Consider new promotion channels (social networks, YouTube, affiliate programs with sales deductions, CPA networks, etc.).  |
| No customer feedback                         | Start collecting your subscription base and organize high-quality Email-newsletter,   |

|  |   |
|--|---|
|  | aimed at receiving feedback, news, quality and interesting content to subscribers.  |
| Seasonal decline in sales or decline in sales between launches | Think of good deals for sale. Create an automated sales funnel, where the subscriber dynamically moves from offer to offer, going through the warm-up interactivity and content.  |
| Sales funnel created but inefficient                           | Check all the funnel steps, connect end-to-end analytics to all pages and analyze their weak points. Come out to dialogue with your audience and try to understand what exactly repels them at each of the stages.  |
| Clients leave orders, but do not pay                           | Connect a call-center and online CRM, ring up customers immediately after placing an order - this will increase their loyalty, help to make a quicker decision, prevent “cool” and change your mind about purchasing a product or service. It is also an excellent tool for quick feedback. |

From the analysis carried out and the tables presented, it is safe to say that with proper use of Internet technologies in business, we get a number of indisputable advantages:

- access to the widest possible audience of consumers of a product or service;
- creation of a loyal subscriber base and timely receipt of feedback;
- increasing confidence in the product and the company, the development of personal brand and its recognition;
- optimization of the company's advertising budget;
- Automation of sales of products and services through marketing funnels and, as a result, increasing profits;
- the ability to clearly highlight its narrow target audience, to segment it in detail, to go on a dialogue with it and create trust in the brand.

The model of any business is based on two aspects - the production of goods or the provision of services and their consumption. To establish a stable two-way communication, you need effective advertising and search for the target audience. Every year companies invest less and less in promoting their services through traditional sources such as television, press, radio, etc. preferring the search for new customers and business partners in the Internet space. The use of web technologies in business of any kind makes it possible to significantly faster find its consumer and more efficiently manage its resources. What is the advantage of Internet technologies and their popularity? The answer is obvious:

- Less advertising and promotion costs;
- Quick search of the target audience;
- Work in a single space without boundaries;
- Lack of geolocation;
- Ability to make online sales;
- Work in a format 24/7.

Internet technology in business is a powerful marketing tool that can be used in various directions to achieve specific goals:

- advertising of the company, its goods or services;
- increase sales of products;
- unlimited possibilities in conducting a variety of studies (building real models of development of specific market segments, opinion polls and other thematic surveys);
- e-commerce (selling goods or providing services online, stock trading, banking, stock markets and much more);
- provision of additional / related services after the sale of goods;
- public relations (news, presentations, additional information at the request of potential or existing customers).

It makes it possible to create a corporate website or an Internet news portal. In addition, it affects the company.

It is a list of tools to increase sales.

1. Own corporate website or online store;
2. Expanded range, think through all options for goods and services;
3. Additional Sales Up Sale;
4. Popular product or product bait at a bargain price;
5. Contextual advertising Yandex Direct;
6. Contextual advertising Google Adwords;
7. Targeting advertising in social. networks;
8. Conduct various promotions and sales;
9. One-page website (landing page)
10. Selling public and community in the Soc. networks;
11. Contests in the social. networks and lotteries;
12. Keeping Instagram;
13. A / B testing;
14. Cold calls;
15. Services couponers with discounts;
16. Email distribution, collection of customer base;
17. CPA (teaser networks);
18. Affiliate programs, referral system with bonuses and gifts for clients;
19. Cost reduction and quality improvement;
20. Article in a journal or newspaper (preferably thematic);
21. Tenders and participation in the state. procurement;

22. Limited commercial offers;
23. Scripts for sales managers;
24. SEO website optimization for organic delivery;
25. Loyalty program - a gift card for each client;
26. Employee motivation system (bonuses for certain indicators);
27. Video promotional video on YouTube and Instagram;
28. Provision of goods or services on credit / installments;
29. Calls for customers with an offer of additional services;
30. Recommendations, reviews and letters of thanks;
31. Certificates of specialists and merit of employees;
32. Participation in exhibitions and business forums;
33. Maintain sales action and control;
34. To act as a guest at the conference;
35. Electronic bulletin boards;
36. Advertising banners on portals.

Of course, I did not mention all the methods and technologies since there are a lot of them, reflected the most important ones in my opinion. All of the listed recommendations were tested and tested on personal experience in the course of the company Cluster WEB. From all the action was some kind of result. Conclusion: We must do something all the time, try and act! After all, under a rolling stone, water does not flow.

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## DOING BUSINESS IN SLOVAK REPUBLIC

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**Abstract.** The main aim of the article is to define and evaluate the organizational and legal forms of entrepreneurship in Slovak Republic. There are two main legislations as the Law No. 455/91 Coll. on Trade Licensing Act, as amended and the Commercial Code No. 513/91 Coll., as amended on doing entrepreneurial activities in Slovakia. The most often used legal forms of entrepreneuring are business companies particularly limited liability company, joint stock company, partnership companies and cooperatives. The natural persons mainly represented by self-employed farmers so called *Samostatne hospodáriaci roľník*.

**Key words:** entrepreneurship, limited liability, joint stock company, self-employed farmer, Slovak Republic

There is no commonly accepted definition of entrepreneurship in the economic theory [1]. Besides, many references about entrepreneurship represented by theorists nowadays are often a conglomeration of the fragmentary arguments. The imprecision in the definition of this concept happened because of differences in culture, politics, and traditions as well as in the practice of the entrepreneurial development in each country [2]

The right to do business within the meaning of the Constitution of the Slovak Republic belongs among the fundamental rights and freedoms and is one of the four fundamental freedoms guaranteed by the Treaty on the functioning of the EU [3].

There are two main legislations on doing entrepreneurial activities in Slovakia:

- Law No. 455/91 Coll. on Trade Licensing Act, as amended [4],
- The Commercial Code No. 513/91 Coll., as amended.

Thus, the Commercial Code No. 513/1991 Coll [5]. defines the term “entrepreneurial activity” (also referred to as “Business activity”) as a systematic activity which is independently carried on for the purpose of making a profit by an entrepreneur in his\* own name, and at his own liability (responsibility).

“Entrepreneurial activity” means activity which is undertaken by an entrepreneur:

- 1.systematically (i.e. regularly, even seasonally);
- 2.independently (independent performance distinguishes business activity e.g. from employment under an employment contract);

3.in own name (which, in the case of a business entity means its business name in accordance with section 8);

4.on own responsibility (i.e. liability; a legal entity is liable for its obligations with all its business property, while a partner of a general commercial partnership, or a general partner of a limited partnership, is liable for the partnership's obligations with all his property; each entrepreneur further bears business risks and liability for damage caused to a customer or an employee, delay in performance, faulty output, etc.);

5.for the purpose of attaining a profit is a conceptual character of motivation of doing business

Under this Code, an "entrepreneur" is deemed to be:

1.an entity or an individual entered in the Commercial Register; (There are two cases when entrepreneur are obliged to be entered into the Commercial Register and when there is not);

2.a person conducting activity on the basis of a trade authorization (in the form of either a trade certificate or a trade license);

3.a person carrying on business activity on the basis of other than a trade authorization (for example: lawyer, doctor, tax advisor, etc.);

4.natural person engaged in agricultural production and is registered pursuant to special regulation. These are the individuals who are registered as self-employed farmers by the municipalities under the provisions of § 12a -12e Act no. 105/1990 Coll. about private entrepreneurship as amended by Law No. 229/1991 Coll [7].

There are several legal forms of entrepreneuring in Slovakia. Gozora deals with this field and indicates that according the Trade Licensing Act and Commercial and Civil Codes in the following organization legal forms of entrepreneurship citizens can do business activity:

1.private entrepreneurship

2.commercial or business company: a) general commercial partnership/ limited partnership; b) limited liability company/ joint stock company

3.cooperative

4.state company

The most often used forms of entrepreneuring in Slovakia are business companies particularly limited liability companies, joint stock companies, partnership companies and cooperatives.

Commercial Code §105 - §153 characterizes a limited liability company as an entity whose registered capital is made up of its members' investment contributions and whose members are liable (as sureties) for the company's obligations until their paid-up investment contributions are entered in the Commercial Register. A limited liability company may be formed by one person or may have a maximum of 50 members [5].

A joint stock company is a company whose registered capital is divided into a certain number of shares with a specific nominal value. The company is liable for a breach of its obligations (debts) with its entire property. A shareholder is not liable for the company's obligations [5].

The Commercial Code determines in the sections §76-§92 "general commercial partnership" as an entity in which at least two persons carry on business activity under a common commercial name and bear joint and several liability for the obligations (debts) of the partnership with all their property. Partner of a general commercial partnership can be natural person and legal entity. In case of natural person (an individual) it meets the general requirements for undertaking a trade under other statutory provisions, and in relation to whom there is no impediment to his engagement in a trade under other statutory provisions, irrespective of its objects (the scope of the partnership's activity). If a partner of a general commercial partnership is a legal entity, the rights and duties connected with participation in the partnership shall be exercised by such entity's statutory organ, or the representative it entrusts thereto and who meets the conditions under subsection. The last common used form of entrepreneuring is cooperatives, which mainly represented in agriculture. Thus, the Commercial Code defines a cooperative generally: A "cooperative" associates an unrestricted number of persons (i.e. members) and is formed for the purpose either of carrying on business activity or of meeting the economic, social or other needs of its members.

### **Conclusion**

Organizational and legal forms of entrepreneurship in Slovak Republic are mainly defined on the Law No. 455/91 Coll. on Trade Licensing Act, as amended and the Commercial Code No. 513/91 Coll., as amended. Based on these legislations, business activity can be carried on as natural person in form of self-employed farmers and legal entity particularly as a limited liability company, joint stock company, partnership companies and cooperatives.

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7 Slovak abbreviation for self-employed farmer - Samostatne hospodáriaci roľník - SHR

## FIRST STEPS OF TURAN-LINGUA

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**Abstract.** The text sets out a brief history of the creation of the project “Turan-Lingua”, shows the basis of its activities, and identifies the areas of activity of the Laboratory of scientific research of problems of media linguistics (LSRPM). The material also considers the relationship between the activities of the laboratory and the project "Turan-Lingua", provides examples from online consultations and other types of work carried out in the framework of the research laboratory. There are some valid requests for consultation received through the “Turan-Lingua” group on the social network VK, with specific cases that occurred in real life, and competent answers to them. Several resonant cases from the practice of the laboratory’s research work have been described; experiments on the form of content delivery to inform the general public about such concepts as linguistic conflictology, media linguistics and methods of responding to speech aggression have been described. The process of working on the development of a site for the laboratory of linguistic conflictology was shown.

**Keywords:** business incubator, “Turan-Lingua”, Laboratory of scientific research of problems of media linguistics, video message, speech manipulation, online consulting, judicial and pre-trial philological examinations.

The business incubator of the "Turan" University consists of several subjects, including "Turan-Lingua". University gives support in creating a business incubator that consists in direct assistance in the implementation of the idea itself by providing office spaces for rent and providing consulting, accounting and legal services. Office spaces are equipped with equipment (partially) and furniture, for each workplace there is a computer with a direct Internet connection.

The work of "Turan-Lingua" is based on the activities of the Laboratory of scientific research of problems of media linguistics (LSRPM), which was founded in 2016 on the basis of the "Journalism and Translation Studies" department. The laboratory operates in the following areas:

- scientific studies of the main problems of media language aspects (media linguistics) on the topics: “Problems of modern media linguistics and media criticism”, “Language and discourse of modern mass media”, “Journalism and media education in the context of mass media transformation”, “Social and cultural dimensions of the mass media discourse ”, “ Problems of linguistic security of media text ”, etc .;

- research work of students, undergraduates, the development of their creative activity by attaching to the scientific work of the Laboratory;

- production of philological expertise and expert opinion of a philologist on a contractual basis.

This article does not cover the results of research activities in the areas of LSRPM staff teachers, but will be about the participation of bachelor and master students in this work.

A number of articles relevant for media linguistics were published in the direction of "Organization of research activities of bachelor and master students". Among which are the following materials:

- "Video message as an actual media genre", master-student Alzhunisova Tursynay (gr. 62-54-17);

- "On the manipulation of mass consciousness with the help of the media (on the material of Kazakhstani media)", master-student Smagulova Aya (gr. 62-54-17).

The need to study these topics was due to the urgent need to consider certain applied aspects of media linguistics. For example, in October 2016 was the request for the expertise to the LSRPM from a lawyer for the court. The case contained the video message from a former KazNAA student to the Minister of Culture and Sports of the Republic of Kazakhstan that was a controversial information material. During the preparation of the conclusion, it turned out that there is almost no scientific research on the media genre of the video message. Now this gap is filled in the form of a master's thesis, in which the video message as a popular media genre today in social networks received a fairly complete description. The topic of the second publication was also due to the lack of knowledge of the specifics and methods of manipulative influence in Kazakhstan's mass media.

The idea of the need for research on this topic aroused during the work of a laboratory employee on controversial information materials in a lawsuit accused of a well-known republican newspaper of defamation. The topic received a successful disclosure in the master's thesis. Both works carried out in the direction of the research areas of the LSRPM have not only scientific but also practical significance. The results of the first work can be used for the compilation of teaching materials for the special course on genres of mass media discourse. The second work - in the development of special courses "Speech manipulation in the media", "Linguistic security of media text", as well as media literacy programs as a result of media education, often designed to counter the destructive impact of media content on society. In general, dissertations materials may be included in educational programs.

The second direction, which has an entrepreneurial perspective in research and organizational activities of bachelor and master students, is to organize and conduct seminars and trainings for future journalists and bloggers. So, on the 17<sup>th</sup> of February in 2017 with the participation of students-journalists of the University "Turan" and the Kazakh National University of Al-Farabi held a scientific-practical seminar on the topic "Provocateurs in social networks" with the

participation of Internews media trainer N. Kozhabekova. The speakers of the seminar were senior students. In March 2019 master-students: I. Manaev, A. Kungeibayeva, M. Yurzhenkov conducted a training seminar "Trolling in social networks" for Almaty university students; they also took part in the April seminar of A. Khalilov "Ethics of video presentation", "Provocations in comments". The study of the literature on current topics of the media sphere, the acquisition of successful experience in conducting seminars and other factors allow them to think at this stage about the idea of creating such a product of their team as conducting seminars on actual topics of the media sphere for beginning journalists. At this time, the hypothesis is being examined for the potential usefulness of the product to solve the problems of potential consumers.

The third direction, which students and master students are getting in the business incubator, is an activity in Turan-Lingua. Journalist students who have studied the discipline "Lingual security of a media text", as well as master-students who studied the disciplines "Linguistic Conflictology in the Media", "Verbal Aggression and Speech Manipulation in the Media", acquired the skills of analyzing information materials that have become the subject of litigation in situations of accusation defamation and other speech violations, including the participation of the media. This allowed them to conduct on-line consulting on verbal aggression. On the page "Turan-lingua" in the social network "VK" they answer various questions related to the usage of conflicting speech units in the media and in other areas of public life, with the establishment of their judicial perspective, etc. Many questions of network users require addressing linguistic criminalistics.

Here are two pieces from the content of online consulting.

"You probably know the unpleasant story of the lawyer Ayman Umarova who received a response from the district prosecutor's office at her request through the e-government portal. In response, the lawyer was named as follows: dear Pupkina Zalupkina. The lawyer was going to go to court for such treatment.

Tell me, please, is this appeal still offensive? "

Some users also ask questions that do not have any purpose - just for the sake of curiosity. In such cases, with the user's consent, the question, along with the answer, is published in the community. For example, the question of one of the users dated November 6, 2018 is connected with the scandalous situation in which the lawyer A. Umarova was. The "Turan-Lingua" page has a certain popularity among young people's audience - presenting materials, answering simply on questions and avoiding complicated formulations help to gain popularity among the audience, however, a simple presentation form does not prevent from giving accurate and truthful answers. This question did not pursue any goals other than curiosity, but the answer turned out to be extensive and as detailed as possible. In response, master students referred to dictionaries, described all possible meanings

of conflicting words, and after a brief analysis gave a conclusion. Consultations are held in the form of a conversation, which allows to increase the speed of responses.

The second example of online consulting is not about verbal aggression. A user in everyday life faced a conflict situation and, being interested in possible consequences, decided to ask a question in the Turan-lingua community.

- Recently I witnessed such a scene. There was a conflict between the seller and the buyer. The buyer complained about the service and products shouting. The seller stood silently for a long time, and then in response showed his middle finger the buyer. The buyer continued to resent and left after a while, then there was no continuation. Tell me, please, is this gesture considered an insult?

Master students also gave a detailed answer. The user was given the definition of insult, and also focused on the fact that insults, according to the Criminal Code of the Republic of Kazakhstan, can occur not only in oral or written form, but also in the form of indecent gestures and movements. For completeness of the answer, an excursion into the history was conducted - the history of the appearance of the gesture mentioned in the question, the implication of the gesture, and in the end a conclusion was made. This situation, described by the user, is quite frequent, and the gesture itself has repeatedly been the reason for attracting a person for an insult. The coverage of this post was above the average in the group, which allows to judge the popularity of this topic, as well as the usefulness of the answer.

One of the most popular themes among users is video games and verbal aggression, which gamers usually encounter during their leisure time. This topic is interesting for several reasons: the main one is that at the moment no one is engaged in insults in video games, the second reason is that the gaming community is creative in inventing new insults and "improving" old ones. For example, a user who is a fan of the popular online videogame Dota 2 asked one of these questions. During a game match, one player called the other "crook-armed guy with cerebral palsy", in this regard, the user asked the question: "Is it possible to attract this deviate person to justice?".

In order to answer this question correctly, there was a lack of ordinary knowledge, a specific question required an understanding of the game "Dota 2" and its gaming traditions. Moreover, in the computer game itself, there are own rules and types of penalties for inappropriate behavior of players. Thus, the game developers regulate most conflict situations themselves. Understanding all these factors allowed to give an accurate and detailed answer to the user.

In the work of "Turan-lingua" laboratory there are many other examples of cases in online consultations. For example, these fragments:

"A video has appeared online where Goldberg asks an impolite viewer to watch his mouth." The events shown in the video unfolded immediately after the end of the live broadcast of Fastlane 2017, where Goldberg won the WWE Universal title in a short match against Kevin Owens. During the celebration of a

big victory, the newly made champion approached his relatives, where he heard foul language from a fan standing nearby. Goldberg told him the following: "Watch your mouth! There are children here. The fact that you, guys, are nothingness does not mean that others should hear it".

Don't you think that here we are dealing with restriction of freedom of expression?

- Both in Russian and in Kazakh culture there is a ban on swear words in the presence of women and children. Your example shows that the same thing is observed in American culture. And then - there is no absolute freedom of speech, there are its legislative restrictions. Everything that we call "verbal offenses" corresponds to these restrictions.

"Today, the former Minister of Education of Russia, Dmitry Livanov, wrote on his Twitter account: "I returned their shit sim-card to the MTS. Low quality of the Internet and deception for 3,500 rubles". So, there is nothing so terrible in the fact that a person thus expressed his indignation?"

- I inform you how this story ended. 3 hours after the posting of his post, the Minister apologized to his followers. "I apologize to Twitter readers for using an abusive word. I lost too much time, money, and 2 days without communication" - wrote Dmitry Livanov. As we see, the statesman understood: emotions are emotions but the usage of coarse vocabulary, even in the form of neologism, is unacceptable in public communication.

Consultations may be accompanied by the analysis of cases in the judicial practice of detecting, analyzing and evaluating verbal offenses. The laboratory staff decided to try a new format of consultation, which can massively inform a large group of people on the Internet. Based on the materials of linguistic expertise conducted by Karymsakova Rakhilya Dauletbayevna, one of the leading experts in the field of media linguistics and linguistic conflictology of the Republic of Kazakhstan, the laboratory staff prepared the video. In this material, in a simple language, not burdened by complicated scientific terms, separately disassembled each conflict-generating agent that led to the trial.

The essence of the matter was as follows: on Ms. X's personal page on Facebook Mr. Y wrote the following comment: "I am 67 years old. And I don't have to report something to every coquette because she wanted to do that now, but now she interprets the law in this way". Ms. X was insulted by this comment and she filed a complaint against Mr. Y. In the comment that caused the conflict, the plaintiff saw possible offenses under 130 and 131 articles of the Criminal Code of the Republic of Kazakhstan: Insult and Slander. To identify the fact of the offenses, law enforcement agencies turned to expert Rakhila Dauletbayevna Karymsakova to conduct an examination and identify violations in the disputed text. A variety of methods of interpretation of the word "coquette" was used during the examination; information was taken from a variety of dictionaries, because this very word was a conflict gene. The examination was carried out, and no verbal

violations were found in the comment of Mr. Y. A summary of the entire examination was filmed and assembled into a short informational video. We did this in order to better inform the population of the Republic of Kazakhstan about how to identify verbal offenses, how to classify them, how to avoid possible problems in this field and how to respond to speech aggression.

The video format for summarizing the examination and the whole case was used for a reason: as a result of research conducted by marketing publications, it turned out that most Internet users prefer video content for information (source: [cossa.ru](http://cossa.ru)). The described video was a trial version - there was decided to find out whether such a format is suitable for our subjects. The result satisfied expectations, and in the future, there are plans to release similar videos for each resonant case in the field of media linguistics and linguistic conflictology.

And in the near future it will be even easier for customers of linguistic laboratory to ask for help – now the site [Turan-lingua.kz](http://Turan-lingua.kz) is being developed.

The site for the lingual laboratory is developed on the basis of the landing page by using a web-constructor named Tilda. According to the development team, this platform has the most complete arsenal of plug-ins and modules that will provide the future customers and visitors of the portal the simplest and most intuitive interface.

A team of designers conducted a global study, whose main task was to identify the most appropriate color scheme, simple and not annoying to visitors and potential customers of our portal. According to the results of the study, the site was made in the traditional tricolor of the “Turan” University. White, blue and black color were used.

Already the team boast of the work done, since the site of the lingua laboratory is already optimized for most of the devices used daily by the overwhelming majority of users (smartphones, tablets, laptops, personal PC's), and it's easy for potential customers and visitors to submit an application for examination, directly from the screen of their smartphones. The picture on the screen adjusts automatically to any device used by site visitors.

The site itself consists of the following modules: the main menu, where the interactive buttons navigate the sections of the site, the site body, where all the information about the linguistic laboratory and people responsible to it, and most importantly effective activity, as well as the description of the advantages. If the client agrees to cooperate with the lingual laboratory and, directly, the application/request form for consideration of the case in which the client wants to understand with the help of the Turan-Lingua laboratory. And the “basement” where all the contact information and map situated, by the way contacts are duplicated and are also situated in the header of the portal. In the near future, a section will appear on the site, called the archive, where all the affairs will be located for which the client of the lingual laboratory will give his consent, and the literature directly related to the field of our site's activity. Within 2 months, the site

will be released from beta testing, and will be available for usage to anyone interested, and entangled.

At the moment we are working on the internal content of the site for the lingual laboratory, and with the introduction and placement of controversial and high-profile cases, high-quality photographs will be able to interest more people with our activities.

Another direction that is relevant for a business incubator is the performance of services such as the production of judicial and pre-trial philological examinations on a contractual basis by LSRPM's employees. The teachers of the department carry out conclusions, but master students provide assistance to them. For instance, help to compile transcripts of informational audio, video materials (for example, controversial videos, video messages), to translate simple texts into Kazakh/Russian, to participate as respondents in a linguistic experiment when working out one of the versions of the interpretation of controversial words and expressions, while attracting samples of examples from a representative corpus of texts, etc.

## Table of Contents

|   |    |
|---|----|
| 1.University of the Future 4.0<br><i>A.Ualzhanova, D. Zakirova, Zh. Juzbayeva</i> .....   | 3  |
| 2.The Model of Training Specialists in Telecommunication Industry within<br>the Framework of Public-Private Partnership and Triple Helix Concepts<br><i>Zh.M. Bekmagambetova, Sh.A. Mirzakulova, G.M.Yusupova,<br/>S.K.Nurymova</i> ..... | 11 |
| 3.Investigating the problems of information support at different stages of<br>innovations life cycle<br><i>U.B. Baizyldayeva, A.I. Buranbaeva, L.K. Bobrov, I.T. Utepbergenov</i> .....   | 16 |
| 4.HEInnovate as a tool in developing strategy of Turan University<br><i>S. S.Tamenova, G.Alibekova</i> .....  | 27 |
| 5.Prospects of Integration and Interaction of Science, Education<br>and Production: International and National Experience Development<br><i>Z.D. Adilova</i> .....  | 38 |
| 6.The development of entrepreneurial thinking in students<br>and teachers in a digital economy<br><i>D.K.Nurtayeva, G.Zh. Nurmukhanova</i> .....  | 46 |
| 7.The Main Vectors of Students' Entrepreneurship development<br>in hospitality<br><i>V.A. Korablev</i> .....  | 53 |
| 8.Creating Smart Universities as a Challenge to Modernity<br><i>A.S. Seitbatkalova, Zh.P. Smailova</i> .....  | 60 |
| 9.Prospects of Development of Business Incubators and<br>Their Role in Protecting the Rights of Entrepreneurs in<br>the Republic of Kazakhstan<br><i>B.Sarbasov</i> .....   | 69 |
| 10. External Criteria for Determining the Level of Economic Security<br>of Small and Medium Businesses<br><i>S.K. Zhanuzakova</i> .....   | 77 |
| 11.Interaction of Education and Business as a Factor of Sustainable<br>Economic Development<br><i>A.Baltabayev., D. Zakirova</i> .....  | 81 |

|   |     |
|---|-----|
| 12. Teaching Biophysics by Using Innovative Technologies<br><i>R.T. Amanova, R.R. Zhumabekova</i> .....   | 88  |
| 13. Opportunities of Triple Helix Implementation in Uzbekistan<br><i>D. K. Akhmedov, A. A. Abduvaliev, N. N. Abdullaev</i> .....  | 94  |
| 14. Legal Clinic as a Form of Interactive learning of Lawyers<br><i>G.A. Zhailin</i> .....  | 98  |
| 15. The protection of Personal Information in Computer Networks<br><i>B. Moldakalykova, Zh. Bimoldina, R. Halikov</i> .....   | 104 |
| 16. Documentary: Three Authors' Views on the Events of December<br>1986 in the Context of Time Dynamics<br><i>A. Bozheyeva</i> .....  | 110 |
| 17. The Experience of Corporate Culture Research in a University of<br>Innovative-Entrepreneurial Type<br><i>G.E. Sarinova, V.O. Popov</i> .....  | 119 |
| 18. EQ and Ichak Adizes' s PAEI Model Correlation in Contemporary<br>Management<br><i>R. Sain</i> .....   | 127 |
| 19. Improvement of Institutional Mechanisms for the Development<br>of Innovative Approaches in the Scientific and Educational<br>Process in Russian and German Universities<br><i>O.V. Sushkova, S. Zh. Suleimenova</i> ..... | 138 |
| 20. Legal and Organizational Aspects of the Execution of the<br>Punishment in the Republic of Kazakhstan<br><i>T. K. Akimzhanov, B. A. Torgautova</i> .....   | 148 |
| 21. The Features of Management Training and Self-Education<br><i>M.U. Uspanova</i> .....  | 155 |
| 22. Analysis of Modern Web Technologies in the Business of Kazakhstan for the<br>Development of Human Capital<br><i>V. Naumenko</i> .....   | 167 |
| 23. Doing Business in Slovak Republic<br><i>A.K. Ismailova, S. Bolatbekov</i> .....   | 173 |
| 24. First Steps of Turan-Lingua<br><i>A. Kungeibayeva, I. Manaev, M. Yurzhenkov</i> .....   | 177 |

### Purpose of the Triple Helix Association (THA) chapters

In order to promote and strengthen its activities at the regional, national and multinational levels, the THA encourages the creation of chapters that have the following goals:

- (1) Increase visibility and recognition for THA, as the pioneer of Triple helix debate*
- (2) Stimulate TH knowledge production;*
- (3) Enhance TH knowledge exchange and dissemination;*
- (4) Widen THA participation and membership base*

by mean of the following nonexclusive list of activities:

- a) Stimulate the interaction between the Triple Helix actors (universities, enterprises and government) and other innovation actors, in order to foster research, innovation, economic competitiveness and growth;*
- b) Perform and disseminate studies, reports, analyses and scientific findings related to all aspects of Triple Helix interactions;*
- c) Organize Triple Helix conferences and other meetings of relevant scientific interest;*
- d) Promote international exchanges of scholars;*
- e) Assist in the education of students, scholars and practitioners;*
- f) Prepare and perform joint projects involving Triple Helix actors, funded by regional, national or international sponsor agencies;*
- g) Ensure a wide communication and visibility of their activities to the local, national and international community through various channels, including own websites, newsletters, brochures, etc.*

**To become a member of the of the Triple Helix Association submit the application to Maria Laura Fornaci, Executive Director (Mlaura.fornaci@triplehelixassociation.org)**