

# Comparative Analysis of Foreign Models of Innovation Activities in Emerging Economies

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*Abstract. In the article have been discussed issues of innovation activities. By the author made a comparative analysis of countries, such as USA, Japan, Russia and European countries. The creation of an innovative environment in the republic, as well as the intensification of the innovative activity of local higher education institutions, becomes an objective necessity, ultimately determines the relevance of the scientific work we carry out.*

*Аннотация.* Подробно обсуждены вопросы инновационной деятельности. Автором сделан сравнительный анализ моделей информационной деятельности зарубежных стран, таких как: США, Япония, Россия и стран Европы. По мнению автора, создание инновационного климата в стране, также, как и интенсификация инновационной активности в локальной системе высшего образования, которая становится крайней необходимостью, в конечном счете — определяет актуальность темы.

*Ключевые слова:* инновационная деятельность, система, информация, высшие учебные заведения.

## Introduction

The process of forming a strategic planning system that will shape future models of the innovative development of priority sectors and sectors on the basis of long-term scenarios to increase the intellectual and technological capacities in our country will have an impact on the change in the activities of science hubs, including higher education institutions. Such institutions are transitioning to the final implementation of their activities on the basis of commercial law. Forming a system for the sale of scientific and innovative products in domestic and foreign markets in the existing conditions in the national academic institutions and higher education institutions is becoming an important prerequisite for increasing the effectiveness of the functional functioning of educational institutions and transition to market-based communication.

Decree of the President of the Republic of Uzbekistan dated February 7, 2017 “On the Strategy for the Further Development of the Republic of Uzbekistan” and the Resolution of the President of the Republic of Uzbekistan from April 20, 2017 NP-2909 "On Measures for Further Development of the Higher Education System" primarily in the field of education, the necessity of reforming the system of higher education, the need to use new pedagogical and innovative technologies in education too. Any higher education institution that wants to maintain its viability in market conditions should ultimately achieve innovation in the field



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How to cite: Petrova, A. I. - Department of Economics, Moscow State University of Economics, Statistics and Informatics, Moscow, Russia; (2023). Anastasia I. Petrova, Maxim V. Rybakov. Journal of Computer Engineering, 12(1), 120–129. DOI:

<https://doi.org/10.5281/zenodo.193476>

of science or cadres, implement new ideas, sell ideas and market potential buyers. Commercialization of higher education institutions can be distracting from their functional responsibilities, but research and innovation activities ultimately create opportunities for self-sufficiency in higher education institutions.

The creation of an innovative environment in the republic, as well as the intensification of the innovative activity of local higher education institutions, becomes an objective necessity, ultimately determines the relevance of the scientific work we carry out.

### *Material and research methods*

Theoretical and experimental methods of scientific knowledge of economic realities and processes in the process of scientific work – generalization, grouping, abstract-logical thinking, monographic, comparison-based, graphical, analytical and systematic analysis methods used properly.

### *Results and discussion*

In the modern world, it is possible to present a few articles of the innovation process that differs with the extent to which individual's innovative capabilities have been put into practice, as well as how the people involved in innovation development are structured on the basis of what methods and principles.

The American way of innovation is venture or risky business. Most innovators and initiators of this kind of business often work with talented engineers, inventors and scientists. They want to get out of the limitations that they have to put forward in their promising ideas, but in the labs of large firms and corporations that are subject to rigorous programs and centralized plans. In this case, the creative potential of scientists must be exempted from the influence of the bureaucracy, so it can be maximally displayed and realized.

Investments required for research are derived from large corporations, private foundations or government treasury, on favourable terms that enable entrepreneurs to access these funds for scientific purposes. But the amount of capital in a dangerous business is small. This is primarily associated with an enterprise's risk. A large percentage of firms working in this area are missing.

The Japanese model of the innovative process organization in large firms is based on the principles of close co-operation between science and production. Japan has developed a system of search engagements and the implementation of its results. In particular, for the first time, such a system was used to develop electronic computing techniques. Some researchers believe that new forms of cooperation in the field of research and practice have given the Japanese a leading role in this area.

International inter-company co-operation is used as a way to increase the effectiveness of innovation in European countries. In particular, from the beginning of the 1980s, joint international projects of scientific and technical development of firms appeared. The purpose of such projects is to disseminate research results and "know-how" outcomes to project participants independently.

As mentioned above, innovation is an event that brings everything upside down. Soloists, devotees and mischief-makers, in many cases young people, create new jigsaw

puzzles across the ranks of existing public order, and then quickly and unexpectedly launch innovations [1].

On the other hand, the development of two historical processes has shown that innovation has also been oriented to “head to head”, and over the past century it has been systematically regulated and regulated by large corporations.

*The first important process is the growth of research activities*

In the last few decades of the 19th century, especially in Germany and the United States, science has been shaped by industry and its supportive form. Vertical Integrated Industrial Zone is becoming a highly integrated global corporation that controls every stage of production and sales. The business manager allows. Innovation is not the only idea, but the sphere of research of the scientist-researcher working on a commercial-research lab. The first research laboratory was founded by Siemens in Germany in 1872. The latest examples include Bell's Laboratory and Dupont's Development Department, founded in the 20's. Scientific research laboratories of the largest global corporations in the field of telecommunications, pharmaceuticals and even automotive industry remain the home for innovation. As a result, it was thought that the company is part of a special section of innovation, and many corporations are now thinking about how to deploy innovations from their labs and put them into the organization.

The historic process for the development of the second important innovation is the gradual and more innovative engagement of the state. The homeland became Germany again. In the nineteenth century, Berlin had become a Prussian military vehicle from the capital of a small German state without any meaning. Innovations and educational institutions that support them are encouraged by the public for military purposes. Later in the 40s and 50s, the creation of the Silicon Valley, at least partly, caused military demands, and the "cold war" ideology. Washington has provided substantial financial support to the companies involved in research and innovation in a more subtle military technology.

The difference was how the industry was organized. In Berlin, two major companies dominate the industry: Siemens and AEG. In California, on the contrary, there were many small firms around Stanford University. Increased number of defence contracts led to the appearance of many small companies that were funded out of the parent company funded for the organization of a venture funded and continuously replacing a production complex that needed copying of products. Stanford was home to a research institute, as well as the world's first scientific city. Silicon Valley quickly became the industrial district of the British royal Victoria-era industrial city. Initially, this network was merged with large deals of large companies of the military-industrial complex. But it has become strongly dependent on local skills, knowledge, and employment. A dynamic network of these small enterprises - strongly competing with each other, as well as closely interacting companies - helped to turn the aircraft industry into a new network of aeronautics and transform electronic equipment into computer technologies [2].

The influence of the state in the great culture of innovation of the last century - in the culture of Japan - was fundamental. The surprising success of Japanese corporations is an unusual, but often recurring date. The main participant in this history is TSSV (Ministry of Foreign Trade and Industry). The ministry, founded in the 1920s, was born in the early 1970s during the Maddie Revolution. TSSV has developed a coherent planning system for large

Japanese corporations during the so-called "exciting development" until the mid-seventies of the twentieth and early 1970s, using the close and close relationship between the government, banks, and industry. But the role of the Japanese government is significantly different from the role of the American administration. In this period, the military spending in Japan was limited, so the innovation market began to emerge. Technological advancement depends, not on the ambitions of the military, but on the consumer's purchase. The great success of Japanese innovation was not the foundation of new technologies, but rather the production of large quantities of consumer goods, from high quality to portable copiers. And the wonders of the postwar Japanese miracle, whether it ends or not, are largely based on the state's participation in corporate policies, strategies and funding.

At present, the role of the state in innovation processes is as follows. In developed countries, government agencies and organizations are the most active investors in the yen. This is due to the fact that many attempts to secure security, healthcare, education, and ecology can not be effectively carried out without investing in intellectual activity. In addition, the government will coordinate the most important innovative projects in the form of joint investment and support [2].

The Russian model of organizing innovation is different from the fact that the innovative impulse originates from state structures. This is primarily due to the historical features. Prior to the reforms of 80-90s, the role of the regulatory and financial regulator of innovations was played by the state planning and distribution system. Innovative innovations implemented by the state are implemented through the centralization and consolidation of different types of resources for the priority and priority areas of science and technology development.

The distinctive feature of the current situation is that there are important fundamental and technological resources in the country, highly qualified personnel on the basis of a unique scientific and production base. At the same time, this innovative approach to scientific advancement in production and other spheres is very poorly organized (1).

The main difficulties in implementing innovation capacities are related to the lack of private funds of organizations, budget and off-budget funding, as well as limited borrowed and attracted funds. The decline in production in almost all sectors of industry, and the constant deficit of funds in organizations, leave no source for innovation.

In the 1990s, the industry's innovative activity suddenly dropped. In quantitative terms, it is reflected in the indicators of the number of organizations developing and operating new ones: in 1992 – 16.3 percent, in 1993 – 17.3, in 1994 – 19.5, in 1995 – 5.6, in 1996 – close to percent.

The sectors that work to meet the needs of the domestic market are characterized by extremely low innovation activity: light and food industries, construction materials industry. Under conditions of low competitiveness of domestic foodstuffs with intensive import interventions, the decline in output in these sectors remains significant. The current situation can be changed only by activating innovation in the country's relevant economic sectors.

The structure of innovation-active organizations is, in most cases, the case: more than 70% of organizations planning to introduce technological innovations in the foreseeable future have been implemented in previous years.

In general, only 5% of the industrial sector is engaged in research and production independently. At the end of the 1990s, the experience and infrastructure of scientific and technical activities were inadequate. More than 40% of the researchers in the field of machine-building have no experience base.

The deficit of funds (insufficiency) was one of the main but indispensable elements of the innervation activity. The country has chosen the path of market reforms, and the scientific and technical base is not yet ready to work under new conditions. Scientific and technical developments can not always be an innovative product for production and productive realization. There were legal and organizational issues in the protection of intellectual property, certification of innovative products.

*The investment mechanism of innovation is of high concern and requires substantial improvements.*

Striving to support all sectors of the country in the face of peculiarities of their innovation activities and allocation of priority areas will not allow successful development of market structures in this area. The special regime for news, risk insurance, venture capital, innovation infrastructure

— are the prerequisites for the innovation transition of state-owned organizations and other entities.

Small organizations, as well as large firms, concentrates and associations, are also important. In developed countries, they provide about half of all the news.

The policy of applying ICT within the framework of higher education is based on the following normative documents in Russia, national strategies, programs and plans:

- Decisions of the "Information Society Development Council" under the President of the Russian Federation on "Application of ICT in education and science";
- Law of the Russian Federation "On Education";
- Resolution of the Presidium of the Standing Council of the "Information Society Development Strategy in the Russian Federation" (17 July 2008);
- Federal Targeted Program "Development of a Single Information Environment in Education System";
- The Russian Government's Decree "On the Development of Education Information System" and a project based on it;
- Decree of the Russian Ministry of Education "On the order of application of distant educational technologies";
- Educational Program for Development; - Promising national project "Education";
- Federal project "Scientific and scientific-pedagogical cadres in innovative Russia"; - "Concept of development of educational programs for 2011-2015".

In November 2010, the project "INFOCUS" on the modernization of higher education was launched. Figure shows the scheme of scientific and educational network "RUNET".

Currently, ICTs are widely used in Uzbekistan, including electronic textbooks, testing systems, multimedia technologies, modelling and imaging software, expert systems, data and knowledge bases in various fields, electronic libraries, telecommunication systems and e-mail teleconferences others. Recently, the use of Internet technology in the education system has widened. As a result of the development of distance learning, various types of information systems have been created and implemented. It is worth noting that a great deal of emphasis has recently been made on improving the vocational education system with the use of information technology capacities. Because it is possible to use pedagogical computer skills effectively (graphics, audio, video equipment and multimedia technologies), individual approach to each student.

In order to improve the management of the education system, the concept of "Integrated information-analytical system of higher education management" has been developed. The Concept provides for the provision of "quality" information on governance decision-making processes, as well as the provision of "transparency" for all (student, professor-teacher, etc.) of various information about the educational process of higher education institutions.

The project for the creation of an integrated information and analytical system of higher education management is planned to be implemented taking into account the objectives of the Ministry of Education, Open Society Institute and Higher Education Institutions, as well as the human resources, network and software infrastructure of the higher education institution.

The core of the system is an integrated database that is based on the latest Oracle System Management System. At the same time, the database components can be located on more than one computer, not on a single computer. In the integrated database, a set of several hundred databases of the educational process in higher education institutions are interconnected and transformed into a uniform system.



Figure. Scientific and educational network “RUNET” (<http://runet.ru/>).

As a result of the introduction of information technology in the education system, an "Information Model for Education Management Infrastructure" will be created. As a result of its creation and implementation:

- The quality of management processes increases, expenses for information retrieval are reduced, complicated processes of data processing are simplified through automation, over time, improved access to higher and higher education institutions;
- There is a sharp reduction in the educational and financial indicators of the education system;
- Each staff member of the management apparatus will be able to form his/her own database on the basis of operational documents;
- Operational information exchange between the staff of the administrative staff and employees of higher education institutions is introduced;
- Remote seminars for professional development personnel of various levels in the field of education;
- Systematic development of an electronic form of training;
- Providing an opportunity to carry out operational monitoring of educational process at all higher education institutions from the centre.

According to the US National Science Foundation, the number of newsletters in smaller firms is usually higher than in the medium and large firms. Thus, innovative activity in Russia should be at the heart of state innovation policies, first of all. It is the government should develop economic, legal and social mechanisms that encourage innovative activities.

In the case of Uzbekistan, particularly in the innovation process, small businesses, which are primarily implementing the first stage of their transition to the commercial

product, play an important role. Therefore, the state creates favourable conditions for the acquisition and utilization of new technologies for small businesses.

Another promising aspect is the development of national venture business. Normative legal acts that create opportunities for the participation of pension funds, insurance companies and commercial banks should be prepared to expand the resource base of Venture funds. Private investors and state venture funds should also develop participatory risk management (at the expense of budget and extra-budgetary funds) [3].

At the same time, the process of developing and implementing innovations for the dynamically developing societies is becoming more relevant. Society should not only react adequately to innovation but also learn all aspects of human activity. The disappearance of innovations, blocking their way leads to hardship in the life of a society leading to a general decline. Thus, in today's society, social needs for innovative activity in all areas of society's life should be established. Therefore, one of the most important issues is the public's readiness to create, disseminate and receive innovations. This innovation, on the other hand, depends on cultural factors. One of the most important tasks for increasing the effectiveness of innovation is the task of creating a creative team or team of highly qualified professionals with the necessary and sufficient psychological qualities for effective work. The most innovative teams are motivated by creativity and curiosity. They realize that the world around them is changing, but they look at their allies as opponents, not their enemies. Together with their working environment, they are always ready for change and development. The characteristics of a successful project team are as follows: 1) devote itself to the project completely;

- 2) focus on results;
- 3) Creative thinking; 4) Readiness for change;
- 5) care about quality;
- 6) ability to predict trends; 7) awareness, interest and energy;
- 8) ability to quickly resolve conflicts;
- 9) communication, feedback; 10) mutual responsibility, trust;
- 11) interest in development; 12) Effective organizational relationships.

The team must develop a clear team spirit. This similarity is largely determined by the purpose of the project. Community must be oriented from outside. Paying close attention to the final outcome of the project will help the team maintain its robustness without risking the organization's comprehensive strategy. Finally, there is a variety of skills for a successful, innovative team. The diversity of the community is its strength. It is intensified because of the competence of the people involved. The team should be creative, constructive and think together. He must be prepared to share ideas and information, work together to solve problems, and adapt to changing circumstances. The team should be able to communicate effectively.

The paradoxicalism of corporate identity plays an important role in the innovation group's activities. One of the most striking examples is that it is a collective commitment to the need for a group to cross regardless of the results of the activity.

Typically, the smallest number of innovative teams is about 8 to 12 people. In many groups, in many cases, ineffective socio-psychological pressure is causing disagreements within the group.

The long-term planning of the functions performed by the innovative community assumes that there are at least three categories of employees.

The first group includes creative developers who can promote creative ideas and can promote original ideas.

The second group consists of innovators-managers who can handle innovation as a process. They need to make decisions in uncertainty, risk financial and business, and overcome organizational and psychological difficulties.

The third largest group of innovations is the skilled workers ("periferiya"), who provide the largest number of support groups. This group deals with information security, environment analysis, and innovation in practice. Individual psychological features of each member of the Innovation Team (in all three groups, but with different accents) must meet the set of qualities needed for effective innovation. In particular, this is intellectual, leadership, initiative, communication skills, responsiveness, and determination [4].

It influences the effective functioning of the innovative community. He must strengthen his team's leadership with his leadership skills, always remind him of the goals of the project and the importance of doing them, to elevate his spirit and lead to the highest result. At the same time authoritarian or command-administrative methods are not allowed. Because the position of an Innovative Group member is determined not by the high level, level of knowledge, but by the value of the ideas propagated, its creativity, and variation in thinking.

The creator of innovation has always been a separate individual. In this case, we should consider the psychology of the individual in terms of innovation capabilities. Therefore, the main problem of innovation psychology is a theoretical and experimental justification of mechanisms, forms and methods of psychological study of the creative potential of a person, and provision of psychological comfort for effective innovation activity. We can assume that the ability or creativity of innovation is inherent in some people.

In addition, other factors also affect the person's innovative activity. For example, in the field of innovation psychology, the following link is emphasized: from the more experienced workers to orientation towards new things, the less experienced workers are less experienced. In summing up the aforementioned, we would like to emphasize that the simultaneous combination of characteristic features of the creative innovator can only be seen by a relatively small number of homogeneous (professional, demographic, gender, educational, national or cultural, or ethnic-artistic groups), the number of such creators in the total number of groups will range from 10 to 12%, and it is often difficult to manage such people and to work with them. It is obvious that innovation is a crucial task in order to define an opportunity and to risk and retain it all, but the idea can be borne in the minds of a single person but requires constant work together to implement it. Innovation is a social phenomenon, it finds its expression in society, and needs to work together to achieve it [1].

### *Conclusions*

The education system is a basis for the development of any society. The main purpose of the training is to bring forward theoretical, practical and methodological knowledge and

skills to future generations of the science and technology scales that humanity has achieved so far. that is the requirements of the time. wide - world. to provide competitive scientific cadres, who have emerged as a highly skilled and experienced staff, to implement innovative ideas.

Management is a must for every society, a way of life and lifestyle. Its purpose is to develop all social partnerships on this basis to satisfy the material and spiritual needs of the community and, first of all, to advance the process.

The area of innovation is the sum of the socially useful labor, which does not have material meaning in its activity, but does not have direct involvement in the process of creating material assets, but which is necessary for the functioning and development of the material production processes, which produces certain types of consumer value is understood.

Here is another important aspect of the issue. An innovative activity of scientific institutions and higher educational institutions and industrial enterprises differs essentially. When it comes to the innovative activities of academic institutions and higher education institutions, it is deemed appropriate to use the term "scientific and innovative activity".

In this section of our research, we can conclude that our higher education institutions play a fundamental role in the development, improvement and effectiveness of the scientific potential of the country, based on our vision of the activities of higher education institutions that should be the subject of innovative activity.

Therefore, at present, our society should be able to deviate from the existence of a strong intellectual potential of modern higher education institutions, without disagreeing with the need to expand international cooperation, to direct it to the elimination of technological gap with the use of available resources to remove the major sectors of our industry from degradation.

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