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Research Article

Improvement of institutional framework for the development of innovative activities

Nurislom Tukhliev[1], Uktam Jiyanov[2]

ABSTRACT

With the transition to a knowledge-based economy, innovation has become a driving force for economic and social change. It is already more than just a factor in the production of goods and services – it has become a form of mass awareness of both innovation and its implications. In this central role, successful innovation requires the population to obtain a higher level of education, be more creative, and boost their ability to perceive essential achievements in science, technology, and innovation (STI) and implement them in daily practices.

The article discusses the possibilities and prospects of the formation and development of an innovative economy in Uzbekistan. It was analyzed the models of the countries that are dynamically using innovative ways of development in the world and the policy of innovation of the CIS member countries. SWOT analysis on the problems and opportunities of the innovative development model of Uzbekistan was carried out, and final conclusions were made.

Keywords: Innovation Activities, Intellectual Development, ICT Policy, Investment Behaviour, Biotechnological Advances, Genetic Engineering

INTRODUCTION

For centuries, there has been growing agreement on the need of expanding our understanding of the innovation process and its relationship to Science, Technology, and Innovation (STI) governance. Innovation success is determined not only by quantitative inputs but also, to a significant extent, by interactions between public and private entities engaged in innovation-related activities. This point of view stems from Christopher Freeman's adoption of the innovation system idea toward the end of the 1980s. Innovation is a wide notion that is variably defined based on the perspective from which it is seen. This is owing to the disparities in perceptions held by development professionals and scholars. In dilating on this subject, the World Bank put forward a simple question in one of its seminar contributions to demonstrate how contentious the subject can be – "are you sure you know what "development" really means with respect to different countries?" and "can you determine which countries are more developed and which are less developed?" (World Bank 2004). The importance of these problems may be deduced from the priorities that countries establish in terms of what constitutes their development programs.

Innovation today has become a decisive factor in the economic and social growth of the world, primarily developed countries. An innovative economy ensures the predominance of the

[1]Doctor of Economical Sciences, Professor, Department of Islamic Economy and Finance, Pilgrimage Tourism, International Islamic Academy of Uzbekistan, Tashkent, Uzbekistan. Email: tukhliev.nurislom@gmail.com ORCID: 0000-0002-5099-8150

[2]Teacher, Department of Islamic Economy and Finance, Pilgrimage Tourism, International Islamic Academy of Uzbekistan, Tashkent, Uzbekistan. Email: uktam.jiyanov87@gmail.com ORCID: 0000-0001-7711-6659.

economy of most developed countries. The countries entering the Organisation for Economic Co-operation and Development (OECD) (35 states), for example, countries of Western Europe and Scandinavia, Japan, Australia and New Zealand in Asia, have primarily formed the innovation economy. These countries occupy about 90 percent of the world market of high-tech products. The USA, Germany, Japan, Austria, Canada, Sweden, Finland, Singapore and Israel have already included among the countries with an innovative modern economy and developed venture business.

Jozef Schumpeter considers innovation as a new combination in resource utilization, a change in technology and management. (Шумпетер, 1982). Gerhard Mensch explained innovation as an investment and support by the state (Mensch, 1979). Robert Salou, Christopher Frimen and Michael Porter analyzed this process through human capital, institutional climate (Freeman, 1995), and the country's competitive advantage (Портер, 1993).

This article analyzes the experience of some countries in the development of the innovative activity, examines the possibilities and prospects of formation and development of innovative economy in Uzbekistan, the issues of improvement of the institutional framework, and provides general conclusions on the results. Also, it was revealed the meaning and essence of the innovative economy, and definitions and concepts were introduced related to the topic.

MATERIALS AND METHODS

The relevance of bringing the economy of the Republic to the Innovation Stage will be the basis to write this article. In the process of scientific analysis, it was used government decrees and decisions aimed at the development of innovative activities, scientific works of foreign and Republican scientists and internet resources. Also, theoretical, methodological, systematization principles, systematic analysis of statistical data (SWOT-analysis) based on the study of economic trends and other research methods were used.

RESULTS

The institutional basis for the development of the innovation process in Uzbekistan is improved, taking into account the current situation. The Ministry of innovative development of the Republic of Uzbekistan was established for this purpose. The Ministry of development of information technologies and Communications, which is considered one of the drivers of innovation, was reorganized.

Under the Cabinet of Ministers of the Republic of Uzbekistan, a committee was established to coordinate the development of science and technology. Later, it became a commission of science and technology, and as a working body, the Science and Technology Agency was formed. In Uzbekistan, several scientific research institutes under the Academy of Sciences have been restored, new scientific centers in the direction of chemistry and physics have been created. As a result, the financing of innovative projects has increased, the number of patents has increased, and their licensing process has accelerated. The introduction of effective, innovative technologies to various fields is developing from year to year.

According to the Decree of the president of the Republic of Uzbekistan, "On measures to organize small industrial zones", small industrial zones with appropriate privileges and preferences are being established instead of abandoned enterprises in the state balance sheet. Cluster, Industrial Park (Technopark), regional production centers, industrial agglomeration, free economic (industrial) zones, scientific-technological parks and startups, which are considered a unique

platform for supporting business interaction, scientists and innovators, are being established. The establishment of the IT Technological Park in Tashkent is a good example of the ideas mentioned above. (Фармон Ўз. Р., 2018).

But there are many problems in this regard. According to the innovative development strategy of Uzbekistan, it is necessary to create new elements of Innovation, Science and Technology Management to enter the top 50 of the global Innovation Index rating. Therefore, based on SWOT analysis, it will be necessary to identify the strengths and weaknesses of the innovation system of the Republic of Uzbekistan.

Table 1

SWOT analysis of the national innovation system of the Republic of Uzbekistan

Strengths	**Weaknesses**
– political and social stability; – Gross domestic product (GDP) growth; – higher literacy rate of population (99,6%); – the relatively low average age of the population (28,6); – state regulation and support of innovations; – availability of research database.	– low rate of financing; – weakness of relations between innovative developments and the private sector; – development of venture capital; – lack of innovator, manager, venture capital specialist; – the high degree of dependence on imports of new technologies (42,3%); – lack of the innovation markets.
Opportunities	**Threats**
– creating national innovations that can "break" using the exogeny model of innovations; – establishment big innovation center; – creating working places through the organization industrial zones, technopark, startups, of small workshops; – increase the share of high-tech goods in the export.	– deterioration of the environmental situation; – lack of adequate use of advantage competition; – financial, economic crises, pandemics; – the outdated technical and technological base of enterprises; – lack of the time allocated to the activities.

As can be seen from the SWOT analysis, personnel, financing and infrastructure problems help to appear the weakest and most threatening aspects of the national innovation system. There is also a lack of the market of innovative goods, a low tendency of enterprises to innovation.

One of the biggest challenges is financing innovative activities. According to the project of the concept of socio-economic development of the Republic of Uzbekistan for the period up to 2030, it is proposed to increase the share of the means directed to the innovation in the gross domestic product from 0.25 percent to 1-1.5 percent in order to create the basis of innovative development. For comparison, in countries like Sweden, Australia, Italy, this figure is not less than 3,0 percent. In the US, it is 2,74, in China – 2,43, it is even 4,3 percent in Ireland. Ireland's high position in exports of innovative products is not accidental.

In the concept mentioned above, the task was set to transition to the innovation type of development in Phase III – (2026-2030 years). For this purpose, it will be necessary to form an incentive for innovation characteristic in most subjects of economics and citizens.

It is also necessary to eliminate several obstacles and difficulties in the target range. They can include the lack of financial means, the lack of qualified innovators and venture capital personnel, information about new techniques and technology, the lack of the market of innovative products, the high cost of introducing new products, the inability of enterprises to move to the innovation system, etc.

There are no startups in agriculture-related fields in Uzbekistan. As the most promising areas for startup projects, it is possible to show the production of "Green Technology", Health Care, Pharmacy, Consumer Goods. For example, today, the Green Economy is becoming more relevant. In 2025, the latest nuclear power station (NPP) will be closed in England.

More electric energy is produced from renewable sources. According to statistics, in the UK, 40 percent of the total electricity is extracted from alternative, 39 percent from extractive (ten-year-old indicators were 80 percent), and the remaining 21 percent from NPP. The main sources of energy that does not cause harm to the environment are wind, solar energy, hydro-technical devices, and bioenergies from plants.

DISCUSSION

According to the suggested paradigm, development is wide and hence necessitates a multifaceted approach to addressing its issues, but innovation, defined as the application of knowledge, holds the key to changing the structure of economies and bringing progress. Considering the framework, a variety of study fields on innovation and development may be undertaken to enhance research and practice. It is suggested that future study assess empirical evidence for the full framework or a section of it. Efforts must be made to develop a proxy for innovation.

The innovation economy is an intellectual economy that relies on knowledge. It refers to creating new types of previously unknown goods and services for the national economic conduct. Innovation is an economy aimed at continuous technological improvement, production and export of high and medium-high-tech goods and services. For this, it is necessary that the national economy corresponds to the 4-6th technological way, reaching the level of up to 3 percent of inflation, the share of innovative enterprises and products is not less than 60 percent, favorable entrepreneurial climate, high quality and value of human capital, diversified economy, attractive investment climate, effective venture system, socio-economic stability, etc.

Therefore, it will be necessary to create the high-tech sector, introduce appropriate changes to the investment and tax policy of the state, develop nanotechnology industries, biotechnology and gene engineering, sharply raise the level of information and communication technologies for the formation of an innovative economy. Of course, all this is not easy work. To do this, we need time, large funds, and qualified personnel.

In the Strategy of Action on five priority directions of the development of the Republic of Uzbekistan in 2017-2021 (Фармон, 2017), in the address of the president to the parliament (Мирзиёев, 2020), and the speeches, Sh. Mirziyoyev put forward the principles of development of the economy of Uzbekistan.

It is known that the scientific-technical innovation process originates from the socio-economic system of society. A type of economy forms an innovation process. At present, in most developed countries of the world, national innovation models have been formed. The historical and cultural development of a country, natural and geographical conditions, production, industrial, scientific and technical potential, people's mentality, and other specific factors cause to create national innovation models.

The paper does not deny the state's policy of innovation and the state's need to lead the innovation process. The state regulates innovation activities in Uzbekistan. The innovation policy of the state is an integral part of its economic policy (Figure 1). The state opens the way to the development of this field by creating "Rules of the Game", the normative and legal base of the innovation system.

Secondly, the country encourages innovation activities through public investment, tax incentives. For the participants of the innovation process in the US, Japan, Great Britain, France and the PRC, the progressive tax system was established considering the level of the complexity of the innovations.

Thirdly, the state also influences the innovation process through the development of targeted programs. In Great Britain, the "National program for the investment of science and innovation" for 2004-2014 years, the "National program for the medium and long-term development of science and technology" for 2006-2020 years in the PRC, the "Long-term socio-economic development concept" for 2006-20 years in Russia, the industrial-innovation development strategy for 2003-2015 years in Kazakhstan, the "Lissabon development program" in PRC and others were adopted. PRC is trying to be the World Innovation Center.

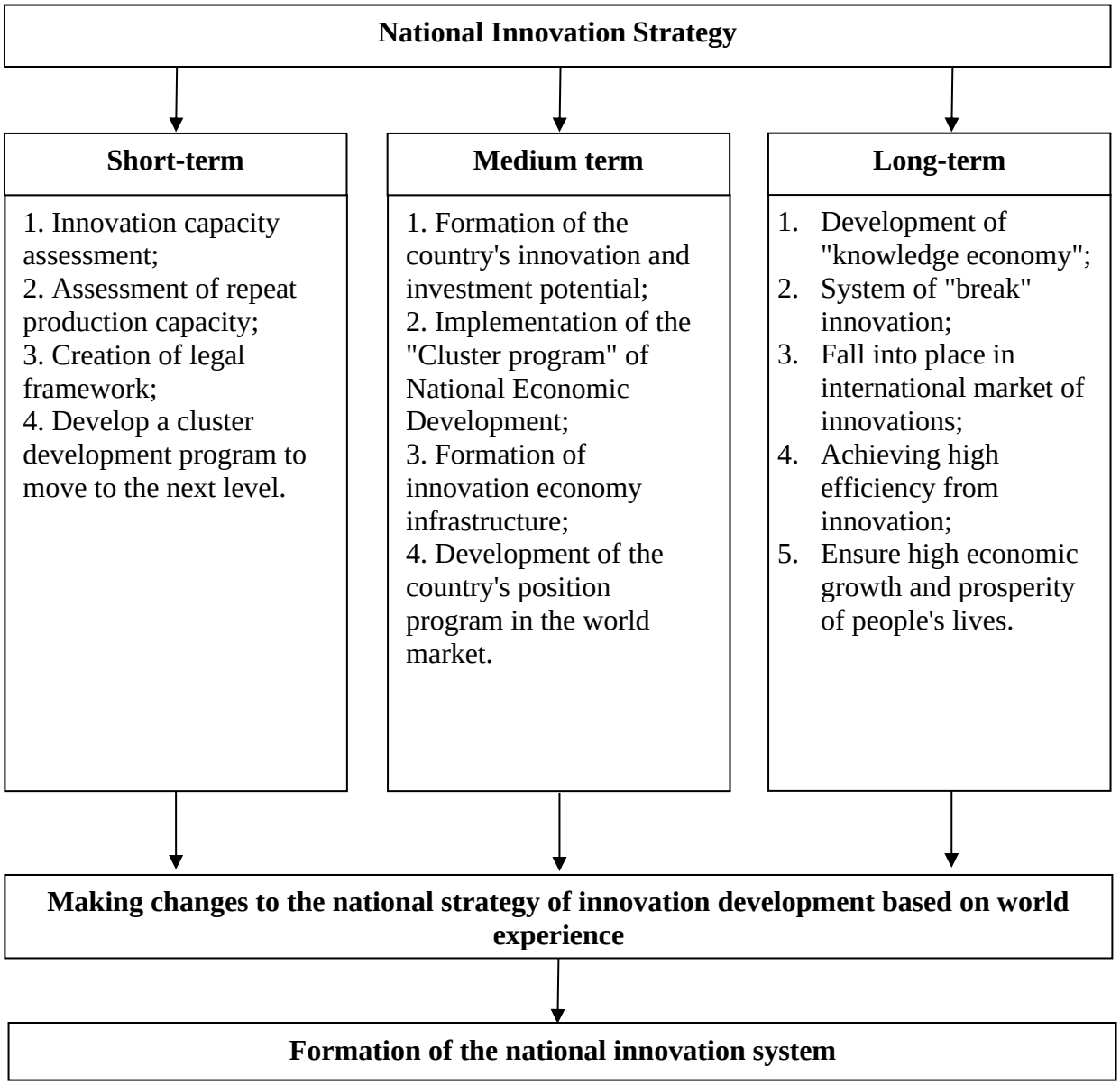

Figure 1. The model of innovative development of the economy of the Republic of Uzbekistan

CONCLUSION

This study's framework contained three components: the function of institutional development in innovation policy, the influence of innovation on development, and the mediating function of institutional effectiveness in national development. The first component emphasized the significance of institutions in the development of innovation. The existing literature indicated that institutional development is critical for stimulating innovation. According to North, institutions determined the rules of the game and affect human behavior and interaction (1993). The framework's second component, as one might expect, focuses on innovation.

Life does not stop in one place. Humanity is progressing vigorously. The number of employed personnel in scientific research and experimental works, corresponding to every ten thousand people, is 2-3 times lower than in developed countries. Still, the share of Information

Communication Technologies (ICT) in the GDP of Uzbekistan is twice lower than the average world indicator. In this regard, it should be noted that Uzbekistan should have its own Silicon Valley, which can become a locomotive in the production of high-tech, value-added innovative goods and services. It will be excellent if such a valley is formed in one of the cities as Navoi or Chirchik, Angren, because these cities have a ready-made infrastructure, logistics, scientific and technical potential. They easily attract venture capital and professionals on a large scale. Innovation valley doesn't interfere with innovation clusters in other regions but helps them, will be the leader in this area. Today, innovations mark the progress of economic development all over the world. This trend can not be underestimated.

CONFLICT OF INTERESTS AND CONTRIBUTION OF AUTHORS

The authors declare the absence of apparent and potential conflicts of interest related to this article's publication and report on each author's contribution.

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