

## HUMAN CAPITAL AS AN IMPORTANT FACTOR IN THE INNOVATIVE DEVELOPMENT OF THE ECONOMY

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**DOI: 10.5958/2249-7137.2022.00095.7**

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### ABSTRACT

*The article considers the role of human capital in the innovative development of the economy. The authors carried out theoretical studies of existing knowledge about human capital and substantiated its impact on the innovative development of society. This article discusses innovations in the economy and human capital, which form the complex of knowledge necessary to create new or transform old products. The prerequisites for combining innovation and human capital are analyzed, according to which the productivity of an enterprise directly depends on the qualitative composition of the human capital of an enterprise.*

**KEYWORDS:** *Innovation, Human Capital, Innovative Activity, Technology Parks, Innovation And Technology Centers, Business Incubators, Innovation Environment.*

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### INTRODUCTION

The sustainable development of the national economy and ensuring its competitiveness require the widespread introduction of innovations in all sectors. At present, an important condition for the sustainable development of the Republic of Uzbekistan is the accelerated introduction of modern innovative technologies with the widespread use of the achievements of science and technology in the economy, social and other spheres.

In the Action Strategy for the five priority areas of development of the Republic of Uzbekistan for 2017-2021, special attention is paid to stimulating research and innovation activities, creating effective mechanisms for introducing scientific and innovative achievements into practice, education at higher educational institutions and research institutes of scientific and experimental specialized laboratories, high-tech centers and industrial parks [1]. The timely fulfillment of these tasks, in particular, the development of research and innovation activities, as well as increasing the innovative potential on this basis, requires the use of direct human capital and the promotion of investment in human capital to effectively solve these problems.

In order to accelerate the development of the country on the basis of modern achievements of world science, innovative ideas, developments and technologies, as well as the consistent implementation of the tasks identified by the Action Strategy in five priority areas of

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development of the Republic of Uzbekistan in 2017-2021, on September 21, 2018, a Decree of the President of the Republic of Uzbekistan was adopted No.5544 "On approval of the Strategy for Innovative Development of the Republic of Uzbekistan for 2019-2021". In accordance with this Decree, the Strategy for Innovative Development of the Republic of Uzbekistan for 2019-2021, its goals and objectives, main directions and a roadmap for its implementation were determined.

The main goal of the Strategy is defined as "the development of human capital as the main factor determining the level of a country's competitiveness on the world stage and its innovative progress"[2].

To achieve the main goal, the main objectives of the Strategy are:

- the entry of the Republic of Uzbekistan by 2030 into the 50 leading countries of the world according to the rating of the Global Innovation Index;
- improving the quality and coverage of education at all levels, developing the system of continuous education, ensuring the flexibility of the system of training personnel, based on the needs of the economy;
- strengthening the scientific potential and efficiency of scientific research and development, creating effective mechanisms for integrating education, science and entrepreneurship for the wide implementation of the results of research, development and technological work;
- increasing the investment of public and private funds in innovation, research, development and technological work, the introduction of modern and efficient forms of financing activities in these areas;
- improving the efficiency of public authorities through the introduction of modern methods and management tools;
- ensuring the protection of property rights, creating competitive markets and equal conditions for doing business, developing public-private partnerships;
- creation of a sustainable functioning socio-economic infrastructure.

The accelerated development of human capital is a priority for the effective implementation of the tasks set out in the Strategy for Innovative Development of the country.

It should be noted that human capital is an innovative economy, which, at the next stage of development - the knowledge economy, becomes the main factor that forms and develops it.

Of particular relevance in the context of economic modernization is the issue of improving the methodology of human capital management as a determining factor and a necessary condition for activating innovative development. Human capital remains the most important competitive advantage of the national economy.

The Strategy for Innovative Development of the Republic of Uzbekistan for the period up to 2021 notes that the intellectual capabilities and education of the population, the innovative ability of the nation, the creative nature of activity will become the main driving force for sustainable economic growth. Human capital is the basis of the national wealth of the country and is able to solve the problems of the rapid development of the national economy, taking its rightful place

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among the advanced countries of the world.

## LITERATURE REVIEW

For the first time, the concept of "human capital" appeared in economic theory thanks to the efforts of two Nobel Prize winners in economics T. Shultz and G. Becker, who believe that improving the welfare of poor people does not depend on land, technology or their efforts, but rather, from knowledge.

A fundamental contribution to the development of the modern theory of human capital was made by T. Shultz, G. Becker, E. Denison, R. Solow, J. Kendrick, R. Lucas, S. Gulyamov, K. Abdurakhmanov, D. Rakhmanov and other economists, sociologists [3,4].

T.Shultz proposed the following definition: "All human resources and abilities are either innate or acquired. Each person is born with an individual complex of genes that determines his innate human potential. Valuable qualities acquired by a person, which can be enhanced by appropriate investments, we call human capital".

The concept of human capital was put forward by the American economist G. Becker in 1960 and denotes the accumulated knowledge, skills, abilities and skills that an employee possesses and acquires during training, education, vocational training, work experience . Becker considered the main investments in human capital to be the costs of education and training, and estimated their economic efficiency as the ratio of income to costs, having received approximately 12-14% of the annual profit.

J.Kendrick understands by human capital the knowledge of a person, general and specific, his ability to productive work.

Academician S.S. Gulyamov studied the special importance of human capital by financing the social sphere and paid special attention to the Uzbek development model in Uzbekistan. [5]

Human capital includes the totality of intellectual abilities, professional skills, knowledge and skills of a person obtained in the process of education and practical activities, quality of life and health.

Modern theorists point out that "the production of human capital is the process of creating human productive abilities through investment" [6], which means "any action that increases the skills and abilities and thereby the productivity of workers" [7]. Other studies note the "clear benefit of investing in human capital" of their employees for companies. Companies "should become a source of human capital development and develop it aggressively" [8], as decisions made about investing in employee human capital will shape the future of the organization for years to come.

In Uzbekistan, the main sources of maintaining its high status in the world have always been human and intellectual capital, which is based on a high level of education and cultural traditions, scientific and industrial potential, based on a developed raw material and processing base.

Thus, national human capital is a sustainable and long-term source of economic growth, and the effective development of the socio-economic sphere is the most important condition for improving and improving the quality of human capital in an innovative economy.

## Analysis and results

The economy of the most developed countries, increasingly focused on innovation, forms such a system of relationships between science, industry and society, in which innovations serve as the basis for the development of industry and society, and they, in turn, stimulate the development of innovations and determine their directions, and thereby – the most important areas of scientific activity. Consequently, by the joint efforts of the state, the business and scientific environment and society as a whole, it is possible to build a mechanism for developing the country's innovative potential. In this regard, the study of the actual state of innovation activity becomes relevant. The defining link in the creation of innovation is the sphere of science.

Human capital in almost all countries of the world exceeds half of the accumulated national wealth. The developed economies of the leading countries of the world are fighting for the formation of a new economy - the economy of knowledge, innovation, global information systems, the latest technologies and venture business. The basis of such an economy is human capital, which is the main driving force of the socio-economic development of modern society [9].

Within the framework of the concept proposed by the World Bank specialists, human capital, including the labor potential, the intellectual power of the nation, the art of management, along with natural resources, accumulated capital and accumulated property, constitutes the national wealth of the country.

The main incentives for the development of human capital are investment, innovation, and competition. On the one hand, the innovative sector of the economy, the creative part of the elite, society, and the state are sources of accumulation of high-quality human capital, which determines the direction and pace of the country's development. On the other hand, the accumulated high-quality human capital underlies the innovation system and economy.

Since the second half of the 20th century, the locomotive of economic development has been science-intensive and “knowledge-intensive” high technologies, the distinctive characteristics of which were high investment attractiveness, a high level of investment risk, the use of advanced scientific technologies, high growth potential and expected income.

Switzerland, Sweden, the United Kingdom, the United States, Finland and Singapore top the rankings according to the Global Innovation Index report published in 2016 by Cornell University, INSEAD business school and the World Intellectual Property Organization. China has been ranked among the top 25 innovators in the world. Russia ranks 38th between Turkey and Chile.

The modern information economy (and developed countries have proven this) requires a global renewal of production, retraining of personnel at all levels (from workers to managers of the highest level), and the prompt introduction of modern management methods. Such an economy requires highly qualified and highly paid personnel who have the opportunity to invest their human capital and develop.

Human capital is one of the hot topics today, since in modern conditions the competitive advantages of the economy and the possibility of its modernization are largely determined by the accumulated and realized human capital. Its formation should be carried out through the

achievement of a high quality of life in general and in particular at the micro level - by creating comfortable and safe working conditions, highly paid employment, and the possibility of self-realization. The main task is to stimulate demand for innovation and, as a consequence, for human capital. The transition to innovative development means that innovations should cover not only the creation of new technologies and their introduction into production, but also the promotion of products on the market, an adequate communication infrastructure.

The innovative economy differs from the traditional one and is a new type of economic relations that arise in the process of production between its subjects. It is important to understand that the transition to innovative development is due to the corresponding development of the productive forces of a person - the subject of an innovative economy. The main element of the process of development of innovative production is a creative person, and his human capital becomes the main resource of innovative production based on the generation of new knowledge. For the successful development of the economy, it is necessary to ensure the appropriate quality of labor resources. It is this policy that most developed countries currently invest in this area with significant financial resources.

Financing the development of human capital is, in our opinion, making investments in the fields of education and health, as a result of which there are initiatives to form innovations for economic growth. [10]

A feature of innovation-based production is that the production process becomes a creative process of transforming knowledge into a new product. At the same time, the basic effect of an innovative knowledge-based economy is both in the creation of new knowledge and the production of high-tech products, and in their use in all industries and areas.

The determining factor in the sustainable development of the innovative economy in modern conditions is the formation and development of the country's innovative environment associated with the use of the results of scientific research and development to create fundamentally new types of products, the creation and application of new technologies for its production with subsequent implementation and sale on the market.

At the end of 2020, the number of technological innovations introduced in our country amounted to 4011. The number of technological innovations introduced: on their own - 3805; in cooperation with other organizations - 127; other organizations - 79.

At the end of 2020, the number of technological innovations introduced by small enterprises and microfirms in our country amounted to 3285 units, their number by region is as follows: Republic of Karakalpakstan - 16; Andijan region - 47; Bukhara region - 242; Jizzakh region - 128; Kashkadarya region - 34; Navoi region - 292; Namangan region - 187; Samarkand region - 188; Surkhandarya region - 147; Syrdarya region - 111; Tashkent region - 514; Fergana region - 219; Khorezm region - 20; Tashkent city - 1140.

Today, in the Republic of Uzbekistan, the costs of research and development, which are one of the most important indicators that assess the country's innovative activity, amount to 0.14% of GDP.

According to the UNESCO Institute for Statistics (UIS), in 2019, R&D spending in Israel is 4.9% of GDP, in the Republic of Korea 4.6% of GDP, in Taiwan 3.5% of GDP. GDP, in

Switzerland 3.0% of GDP, in Sweden 3.4% of GDP and in Japan this figure is 3.2% of GDP.

A significant portion of R&D spending goes towards salaries and salaries of R&D personnel (researchers, technicians and R&D support staff). Reflecting this, the numbers for Researchers per million inhabitants follow a similar pattern, as does the trend for R&D spending, but there are differences.

The ranking is dominated by the following countries, which consider the share of researchers in relation to the total population of countries: Israel (8250), Denmark (7515), Sweden (7153), Republic of Korea (7113) and Singapore (6730). However, in absolute terms (number of researchers in millions), China (1.69 million), USA (1.38 million), Japan (0.67 million), Russian Federation (0.43 million) and Germany dominate (0.40 million).

Effective innovation activity means an increase in the role of a person's creative abilities for self-realization, which establishes a strong dependence of the innovation production process on the development and improvement of the very subject of the innovation economy.

Trends in world economic development identified by the Organization for Economic Co-operation and Development (OECD) indicate a significant impact of the process of accumulation of knowledge and human capital on the pace of economic development.

The formation and effective use of human capital is associated with the implementation of a targeted policy focused on solving a certain range of strategic and tactical tasks specific to each innovative enterprise.

Human capital management is a strategic and planned approach to managing the organization's most valuable workforce. To achieve the goals of the organization, it is necessary to evaluate the value and effectiveness of human capital. [11]

Almost all leading countries have a well-thought-out strategy for scientific and technological development, which is being implemented in practice and supported by the allocation of significant financial resources. Such strategies are implemented by the USA, Japan, Germany, Great Britain, China, Brazil and India. The main emphasis in these programs is on increasing public investment in R&D in priority sectors, stimulating domestic demand for high-tech products, taking comprehensive measures to encourage the innovation activity of the private sector, especially small and medium-sized businesses, as well as training qualified scientific and engineering personnel.

In the formation of an innovative economy, the education system is of particular importance. In particular, if the proportion of the working-age population with higher education of the total population in developing countries is 3 percent, in industrialized countries - 30 percent, in an innovative economy - 60 percent, then in the intellectual economy this figure should be 80 percent. [12] This shows how important attention is paid to the field of higher education in the knowledge economy.

In this regard, when admitting students to higher education institutions, it is necessary to take into account public-private partnerships, i.e. provide for the allocation of additional places, providing them with funds in accordance with the number of requests for specialties from private sector entities. We also consider it expedient for the private sector to participate in the formation of the structure of academic disciplines with the involvement of their funds. [13]

## CONCLUSION

The study allows us to draw the following conclusions. To create an effective innovation infrastructure that ensures the transfer of the results of the research and development sector to the national and global economy, it is necessary to ensure the widespread use of the following institutional mechanisms for integrating education, science and business: [14-16]

- promoting the development of cooperative ties between the main subjects of the innovation system: education, science and business;
- formation of financial institutions that ensure the continuity of financing of business projects at all stages of the innovation cycle;
- development of the production and technological infrastructure for innovation activities (technoparks, innovation and technology centers, business incubators, technology transfer centers, etc.);
- development of information, expert-consulting and educational infrastructure for innovation activities;
- further improvement of the quality of education in educational institutions through the introduction of new educational programs, modern pedagogical technologies in the educational process;
- organizing a system for training managers in the field of innovation to accelerate the return on innovation;
- development and implementation of a national system for assessing the quality of education and its impact on the level of innovative development of the country on the basis of systematic monitoring of the results of the educational process at the regional and national levels;
- increasing the coverage of the population with higher education;
- strengthening the research component of higher educational institutions based on state support for the most active universities in this field, selected by the number of published scientific articles, citation index, participation in international conferences and seminars, the number of patents received.

## REFERENCES

1. Decree of the President of the Republic of Uzbekistan dated February 7, 2017 No.4947 “On the Action Strategy for the Further Development of the Republic of Uzbekistan”, Collection of Legislative Acts of the Republic of Uzbekistan. 2017, No. 6 (766), p.70. Available at: <https://cis-legislation.com/>
2. Decree of the President of the Republic of Uzbekistan dated September 21, 2018 No.5544 “On approval of the Strategy for Innovative Development of the Republic of Uzbekistan for 2019-2021”, National Legislation Database [www.lex.uz](http://www.lex.uz), September 22, 2018, No. 06/18 /5544/1951. Available at: <https://cis-legislation.com/>
3. Abdurakhmanov KKh. Trends in the development of human capital in Uzbekistan. Bulletin of the Russian Economic University. 2013;8(62):80-83.

4. Lucas R. On the Mechanics of Economic Development. *Journal of Monetary Economics*. 1988;22(1):3-42.
5. Gulyamov SS. et al. The effectiveness of the interaction of human capital factors in Uzbekistan. *Journal of Finance.*, 2014;(4):119-127.
6. Dobrynin AI, Dyatlov SA, Tsyrenova ED. Human capital in a transitive economy: formation, evaluation, efficiency of use. St. Petersburg, Nauka; 1999, 309 p.
7. McConnell KR, Bru SL. *Economics: Principles, problems and politics: per. from English.* Moscow: INFRA-M, 2003. p. 171.
8. Fernandez E, Mauro P. The role of Human capital in Economic Growth. *International Monetary Fund*; 2000, 3 p.
9. Regent TM. Problems of human capital as an integral part of national wealth. *Bulletin of RosNOU*. 2016;(4).
10. Solow RM. A contribution to the theory of economic growth. *The Quarterly Journal of Economics*. 1956;70(1):65-94.
11. Kucharčíková A, Tokarčíková E, Blašková M. Human Capital Management – Aspect of the Human Capital Efficiency in University Education. *Procedia - Social and Behavioral Sciences*. 2015;177:48-60.
12. Gulomov S, Ochilov I, Saydaxmedov O. Factors of efficiency in the intellectual economy. *Journal of Economic Bulletin of Uzbekistan*. 2015;(6):38-41.
13. Rakhmonov DA. Improving the methodological foundations of financing the social sphere in Uzbekistan: Abstract of a doctoral (DSc) dissertation in economics. Tashkent: 2018. 72p
14. Schultz T. *Investment in Human Capital: The Role of Education and of Research*. N.Y., 1971.
15. Becker, Gary S. *Human Capital*. N.Y.: Columbia University Press; 1964.
16. John WK. The accounting treatment of human investment and capital. *The review of income and wealth*. 1974;20(4):439-468.