

The Role of The Digital Economy in The Development Of The Human Capital Market

Gulnora Abdurakhmanova¹, ²Nargiza Shayusupova, ³Aziza Irmatova, ⁴Dostonbek Rustamov

Abstract: *In the article, the concept of “the market of human capital” is considered as an integral part of the labor market and a determining factor in the innovative development of the economy. As the concept of “human capital” is clarified, such indicators as the human potential development index, the information and communication technologies development index, the global innovation index are analyzed. In order to develop an innovative economy, a model of managing the market of human capital was proposed.*

Key words: *Digital economy, the market of human capital, human capital, innovative economy, innovative economy indexes, new technologies.*

I. INTRODUCTION

At the moment, our country is entering a new phase of its development; special attention is paid to the issues of convergence of development principles in the most advanced and universally recognized standards in all spheres, ensuring competitiveness and worthy place among the developed countries. The urgency of the problem of human capital formation is as follows. First, it is national in modern civilized society the economy cannot thrive without a well-educated and skilled workforce and second, one of the key features of the future is digital technology. This is not only due to advances in information technology and telecommunications, but also due to high levels of human capital. It is also determined by the high level of higher professional education.

"The higher the number of people with higher education in our society, the faster and more efficient the development will be" [1]. These are the foundations for the development of the digital economy - new and improved computer software is not possible to master or create high-tech, both at industry, micro and macro levels, as some companies do. Today the world is entering a new technological revolution.

New technologies have been introduced in all sectors of the economy, including banks, trade and services. Are we ready for a world changing at such speeds? Our education model, our businesses and our economy are lagging behind these changes, which threatens our national economy. It is also worth noting that "... 13% of workouts are lost in ten years" [2]. Based on the above, it is necessary to address human capital and its level at the national economy level to effectively integrate our national economy into new realities and create the basis for further development.

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¹ Doctor of Economics, Professor, Dean of the Faculty of Economics, Tashkent State University of Economics, Tashkent, Uzbekistan.
PhD, Associate Professor, Russian Economic University named after G.V. Plekhanov Tashkent Branch, Tashkent, Uzbekistan.
Phd, Post-doctoral student, Tashkent State University of Economics, Tashkent, Uzbekistan.
Student, Faculty of Economics, Tashkent State University of Economics, Tashkent, Uzbekistan.
E-mail address: dostonbekr2000@mail.ru

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II. MATERIALS AND METHODS

T. Schultz, G. Becker, P. Drucker and others cite human knowledge and intellect as a key indicator of human capital. In particular, T. Schultz considers a person from the point of view of his abilities and knowledge he receives through education, that is, every educated person has a resource that he or she can use in their activities where they can earn a certain income. In particular, he writes: "If education affects production that is important to the economy, it is a form of capital" [3]. G. Becker's theory of human capital from an investment perspective developed. In his theory, human capital is a "resource of knowledge, skills and motivation for everyone. Information about education, professional experience, health, geographic mobility, income and prices and search may be an investment in it"[4].

P. Drucker writes: "The only competitive advantage of developed countries is the availability of skilled labor resources. Difference between skilled workers and unskilled workers that is, they own the means of production: they are the bearers of knowledge"[5].

They are a specific reserve of human capital, investments and savings accumulated by human health, knowledge, skills, and motivations that can be used for a particular area of social reproduction that contributes to increased productivity and productivity, as well as contributes to increased human earnings. capital formed as a result of this ". The theory of economic development based on innovation and knowledge was developed in 1926 by Joseph Alois Schumpeter.

In his work, Theory of Economic Development, he pointed to the boundaries of the concepts of "economic growth" and "economic development." Y According to Schumpeter, the development of the economy is a special form of organization of scientific advances that ensures competitive advantage and technological advancement. Y Shumpeter refers to entrepreneurs who have the necessary skills and knowledge to be the key subjects of innovation [7]. We can say that Mr. Schumpeter based his theory logically on the idea that economic development is the basis of human capital, especially human capital without ideas of innovation and innovation.

G. Becker, Y. Based on Schumpeter et al.'s theories, we can conclude that the high level of human capital and human potential determines the development of an innovative economy based on digital technology and knowledge.

The history of the science of world economy shows that until the beginning of the 20th century physical capital - means of production, material resources, etc. played a major role in the production process. It was enough to have a natural labor force, which at that time would be used as one of the additional resources for technology. It was easy to train and replace the staff.

This signifies a radical change in social relations. Human development was also influenced by changes in society. Employees began to participate in the distribution of the results of their labor, in the management of enterprises through a system of property and profits and the number of cooperatives and their effectiveness increased.

As a result, the category of human capital in the economic sciences began to form. Its emergence has been the response of the economy and related sciences to the demands of the economy and life. Deep exploration of the pace of development of society and the economy, as well as the intellectual potential of man and his, has become a vital necessity.

V. Petty has shown that wealth and its sources of income, along with land and rent, capital and profit (interest), can provide some form of income depending on the labor, skills and health of people. According to the scientist, the amount of human capital is estimated by the capitalization of a lifetime wage of an employee.

A century later, Adam Smith and other representatives of classical economic theory recognized the concept of human capital. Adam Smith in his 1776 study of the essence and causes of people's wealth showed that the wealth of nations was largely determined by the number of workers and the quality of their skills.

A hundred years later, Alfred Marshall also analyzed the effects of long-term investment in human capital and the role of the individual in the process.

Indeed, statistical data on economic growth in developed countries show that the growth rates are much higher than the calculations based on classical growth factors. The analysis of the processes of economic development and growth shows that human capital has become the main production and social factor for the development of modern economy and society.

It is well known that the encyclopedic interpretation of capital - from the words "capital" (in French, English, "capital" and Latin "capitalis") is "resources that are capable of generating income or producing goods and services by people".

The term capital is generally used for labor products that are intended for future use. The process of creating capital is called investing. Investment involves initially making costs and then reimbursement.

Initially, human capital refers to the ability of people to work - a combination of investments in education and skills. Subsequently, the concept of human capital expanded considerably. The latest estimates by World Bank experts include human capital expenditure - food, clothing, housing, education, health, culture, etc., as well as government spending.

In the broadest sense, human capital is an intensive production factor of economic development, community and family development, an educated part of manpower, intellectual and managerial work, living and work environment. They must ensure the effective and rational use of human capital as a factor in the development of human capital.

According to human capital theory, people can invest in themselves and expand their capabilities, and the state can increase national income by investing in the enrichment of human capital. The effectiveness of such investments is reflected in the fact that the costs are reimbursed through increased labor productivity and higher wages.

Generally speaking, capital refers to all the elements of social wealth that are collected, used in production, and generating income. This is T. According to Schultz, it allows for a consistent distribution of capital: human capital and property. In order to be more precise about the concept of human capital, it is necessary to distinguish between physical and human capital.

III. DISCUSSION

Based on the economic indicators of the development of the digital economy in Uzbekistan, the share of the IT sector in the gross national product is not satisfactory today, but we can see that large-scale work is being carried out in this direction.

The penetration of information and communication technologies into the innovative economy will lead to the digitization of society. As a result of the development of information and communication technologies in all indicators of human capital, the share of research participants is the highest, which is an important factor in the diffusion of high-tech solutions.

According to the United Nations, more than 33% of the world's population suffers from a lack of intellectual development due to a lack of coherent starvation - calcium, magnesium, iron and iodine. As a result, their ability to learn is low and they do not receive the corresponding achievement in their profession. To do this, the small population, ie young people, must be eliminated by improving the quality of products in the consumer basket.

The state also enriches its national human capital as a result of increased spending on education and health care, which is a key factor in sustaining the country's economy and increasing its competitiveness on the world market.

A study by scientists in the US (analyzed more than 3,100 jobs) showed that an employee education rate of 10.0% increased cumulative labor productivity by 8.6%. For comparison, the increase in fixed assets by 3.4% can be attributed to the increase in fixed assets. In other words, the return on investment in human capital is three times higher than the return on investment in technology.

This is also confirmed by World Bank data. Currently, two-thirds of the world's total wealth - 66% is human capital (\$ 365 trillion). This is even higher in the economies of Uzbekistan (Table 1.1).

Table.1

Human capital indicators in countries around the world

Countries	Amount of human capital (trillion USD)	Amount in total national wealth, %
United States	95	77
China	25	77
Brazil	9	74
India	7	58

At present, almost all countries of the world have focused on education, a key component of human capital. 100 years ago, government spending on education made up 1.0% of GDP. So far, it has reached 5.1%. As a result, the number of people with primary education in the world exceeded 94.0% of the total population.

The cost of scientific research is also an investment in human capital. In the course of science development not only innovations, highly productive machines are created, new technologies of production are formed, but also qualitative changes are made by those who have new abilities and needs. In the information society, science becomes a kind of "human capital generator."

It is also important to invest in human health in combination with education and science. The economic value and importance of health for the accumulation of human capital is undeniable. Investment in health care is one of the priority costs to extend life expectancy. This will help to extend the life of the human being and thus extend the period of human capital.

Poor health of a person reduces labor productivity. Physically weak and sick employees are not able to fully represent their human capital. Therefore, businesses are also economically interested in investing in the health of their employees.

Result

According to the United Nations, Uzbekistan is a human being 114 out of 190 countries in the Index of Capacity Development Index takes place. Uzbekistan's index on this index is 0, 675 [8]. Human capital in calculating the HDI the basic indicators that can be taken as a basis, health, education, living standards or real population.

The index includes three indices, such as income. In particular,

1. Life expectancy index This is determined by the average health and longevity.
2. Education Index: the educational environment, which is determined by the average number of adult and preschool children.
3. GRP Index: living standard or real population

The GDP per capita reflects the income of the population. These three indices are numbers from 0 to 1, and the three above are the sequence of states in terms of directions. The top five in the HDI Norway (0.944), Australia (0.935), Switzerland (0.930), Denmark (0.928), Netherlands (0.922). Russia is ranked 50th (0.798), and Kazakhstan - 56th.

(0.788), Georgia ranked 76th (0.754). Neighboring Turkmenistan 109- (0.688), Kyrgyzstan is rated 120 (0.655), and Tajikistan - 129th (0.624).

Uzbekistan also ranks 95th out of 176 countries in the ICT Development Index. Uzbekistan's index on this index is 4.90 out of 10 [9].

The ICT Development Index is an aggregate indicator reflecting the achievements of countries around the world in the development of information and communication technologies. This is the index is a United Nations specialized unit that defines world standards in the field of information and communication technologies Calculated by the International Telecommunication Union. The index was developed in 2007 on 11 indicators. The Index as a tool for comparative analysis at global, national and regional levels may be used. These indicators include the use of ICTs, as well as the level of practical knowledge and skills of the population in using these technologies.

Iceland (8.98), South Korea (8.85), Switzerland (8.74), Denmark (8.71) and the UK (8.65) are in the top five in this index. Among the CIS countries, Belarus is ranked 32nd (7.55), Russia 45th (7.07), Kazakhstan 52nd (6.79), Azerbaijan 65th (6.20), Georgia 74th (5.79). took place.

There is also an index of global innovation that defines the state of the innovation economy, which is based on 82 indicators reflecting the innovative development of countries with different levels of economic development. The development of the economy depends on the availability and implementation of innovative potential in the country. Therefore, this index is determined by summarizing these two groups:

1. The resources needed to apply innovation and are created conditions (Innovation Input) / costs:

- institutions;
- human capital and its exploration;
- infrastructure;
- development of the domestic market;
- development of entrepreneurship.
- Innovation Output / Efficiency through Innovation:
- advanced technology and economic knowledge;
- results of creative activity.

Thus, the global innovation index represents the ratio between the cost of innovation and its effectiveness. According to 2018, the index has been calculated across 127 countries.

The top five on this index are Switzerland (67.69), Sweden (63.82), Netherlands (63.36), USA (61.40), United Kingdom (60.89).

In non-standard labor relations, the most common forms of labor are common. Particularly, part-time work is becoming more and more popular in the world market. Statistics show that the share of part-time workers, especially in developed countries, is steadily increasing (Figure 1).

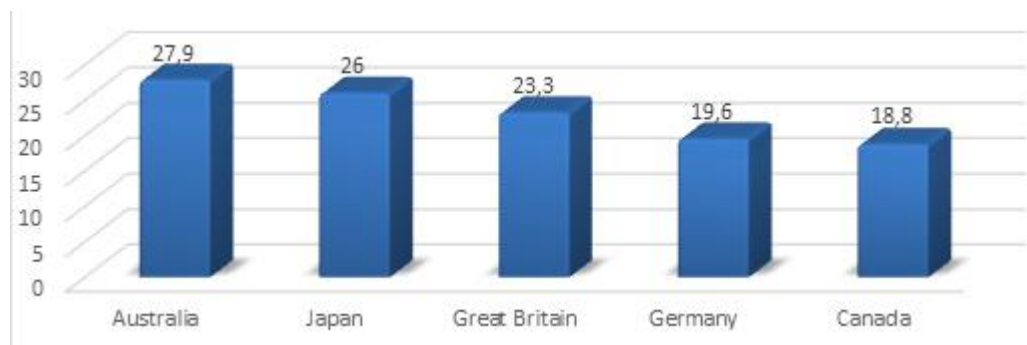


Figure 1. Share of employees working in part-time employment in developed countries of the world (% to total)

Unstable forms of employment of the population can be considered not only economically, but also as a means of solving social problems. This will increase the level of involvement of labor resources in labor activities, create conditions for partial and remote work, respond quickly and effectively to the changing market conditions of the labor market, and optimize the costs associated with the use of labor resources by the employer.

At the same time, the forced compliance of a significant number of employees to new organizational, technical and socio-economic requirements violates the terms of the labor contract with indefinite duration of employment.

As a result, the employees who are provided with job security at standard employment are deprived of labor protection, salary insurance and other labor and social guarantees. In addition, flexible forms of employment undermine the role of trade unions, which are the main safeguards for the proper employment of workers in standard employment.

IV. CONCLUSION

The theoretical analysis of the role of human capital in the development of an innovative economy can be summarized. It is impossible to imagine the current development of the economy without innovations and new ideas, the basis of which is human, primarily human capital. The transition of human capital to digital technology defines it. As countries with an economy based on the development of electronic technologies and services, including the development and analysis of information and digital space, gain competitive advantage.

Therefore, we need to develop a national concept of digital economy, which provides for the modernization of all sectors of the economy based on digital technologies. On this basis, the implementation of the "Digital Uzbekistan-2030" program we need to implement it. The digital economy will increase gross domestic product by at least 30% and reduce corruption"[1]. Five development strategies of the Republic of Uzbekistan in 2017-2021. The State Program on the implementation of the strategy of actions in the "Year of active investments and social development" identified a number of practical measures. In particular, in paragraph 71 of the state program development of a "road map" of the national digital economy strategy, including digital transformation in the provision of public services, public administration, all sectors of the economy and services; reducing business costs and administrative burden for the purpose of digitizing administrative procedures [11]. In this regard, it is envisaged that the state budget expenditures for 2019 will be allocated mainly to the social sphere. Social sphere expenditures - 57.8 trillion soums, or 54% of total expenses. These costs are up 34.4% year-on-year. 4 trillion sums for financing pre-school institutions, 17.1 trillion soums for general education. The amount of funds allocated for the training of personnel will amount to 3.8 trillion soums. 12.1 trillion soums will be allocated for healthcare financing, or 11.3% of total expenses, with an increase of 30.5% compared to the previous year. Areas of science 0.8 trillion UZS will be allocated for development [12]. It is also planned to develop measures to gradually increase funding for research and development activities in 2019, with the aim of attracting funding and investment in science and innovation. Improvement of its position in the innovation index, introduction of new funding mechanisms for research and innovation activities, strengthening the material and technical base of research institutions and required innovation. implementation of measures for the construction of infrastructure [11].

In addition, radical reforming the activities of research organizations and increasing the efficiency of research and development. This includes measures aimed at inventory of the scientific potential and material and technical base of existing research institutions, establishment of sectorial research institutions, design bureaus, experimental and innovation centers in the field of production, implementation of the rating system of research institutions envisaged implementation.

Thus, the following model of human capital market management is proposed for innovative economic development (Fig. 2). Human capital management is a continuous process of interaction between an object and a management entity. Internal and uneven relationships are caused by continuous changes caused by external factors. It formulates the system as a whole.

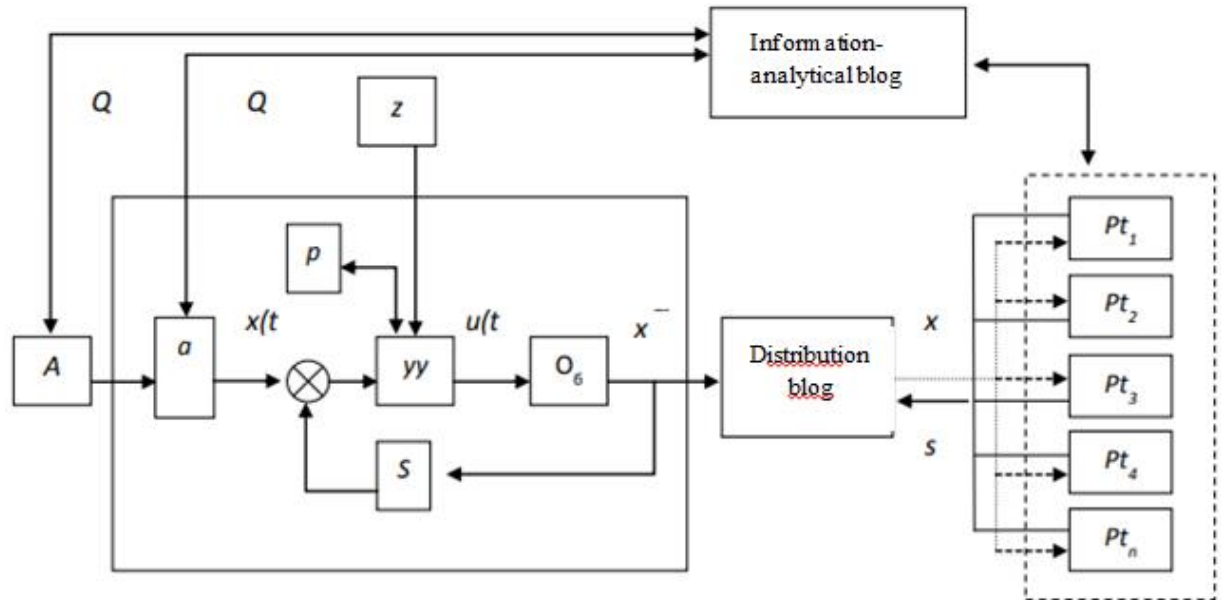


Figure 2. Man for the purpose of innovative development of economy

Model of capital market management:

Thus: $x(t)$ - the development of internal standards and rules in science and education; $o(t)$ - educational standards, practice and training programs, distance learning, etc.

p - social support services, health care institutions, credit institutions, charities and so on others; y - science and educational institutions (faculties, chairs, scientific schools, institutes); O_b - student, listener, graduate student, doctoral student; z - economic, social and political factors; Q_n - Strategic plan for innovative development of the region; x and t - the current state of the system; S - information on feedback, testing and control results; A - Regional education system departments; a - administration of educational institutions; $Pt_i(n)$ - Consumers (businesses and organizations ordering human and intellectual resources); s_i - orders for human and intellectual resources; x_i is the number of orders made for consumers $Pt_i(n)$.

The model presented is micro and macro level management represents the sequence of events. At the same time, management measures are influenced by information on external factors at the micro-level. This information has a positive and negative impact on the management process ($Q_n; z$). Positive effect is achieved by obtaining data on medium and long-term forecasts of economic development of the region. The downside is that statistics are inaccurate, there is a discrepancy in the data on the current state of the region's economic development. We use a mathematical model to build a model. According to this model, the distribution of specialists with specific knowledge is based on the following rule:

$$x = \max \{s_i, \gamma A_i s_i\}, \quad i = \overline{1..n}$$

This: γ is a common parameter for all consumers and is based on the following conditions:

$$\sum_{i=1}^n x_i = O_b$$

that is, the total resources are distributed without any residuals. Experts who have some knowledge of the situation we are envisioning Distribution by sectors and branches of economy $A_1 = A_2 = A_n = 1$ in terms of educational institutions Consumer Equality.

Then $x = \min\{s_i, \gamma s_i\} = \gamma s_i$, $i = \overline{1..n}$ $x_i = s_i$ - the more orders these customers have, the higher the order size is a condition that is executed in quantities. Thus,

$$\sum_{i=1}^n \gamma s_i = O_b$$

$$\gamma = \frac{O_b}{\sum_{i=1}^n s_i}$$

Based on the above, Uzbekistan in 2017-2021 the following is the state program for the implementation of the Strategy of Action for the five priority areas of development of the Republic:

Suggestions: 1. Applying innovative approaches to the formation of the regional labor market, creation of cluster structures, particularly in the labor market. At the same time, there are unused state facilities in the region for cluster formation and their successful functioning, which serve as the basis and source for the consolidation of the forces of stakeholders. The main task here is to meet the demand for workers and professionals with a specific vocational training. Provide business orders through cluster structures on a number of required human resources and specialists by employers.

In accordance with modern requirements, the regional public authorities and administration will create conditions for vocational training and retraining according to international standards. This is one of the most pressing problems in the regional labor market. To reduce tension in the labor market and to ensure effective employment.

2. Opening of the branches of the Scientific Center under the Ministry of Labor and Employment on the basis of vacant professional colleges. At the same time, the centers of the cluster structure in the regional labor market are linked to the internal and external environment in each city and district. Opening of branches of the Scientific Center under the Ministry of Labor and Employment on the basis of vacant vocational colleges or academic lyceums (thus linking the cluster structures in the regional labor market with the macro-level labor market created).

3. To take part in the vacated secondary specialized vocational colleges in foreign countries, where the majority of Uzbeks work. Involvement of business companies. Here foreign business companies train themselves establishment of centers.

4. To provide some of the empty buildings of secondary specialized vocational colleges to open branches in foreign and non-state higher educational institutions. This includes training of specialists (engineers, technicians, skilled workers) based on the needs of the regional, regional and external labor markets.

5. Vacancies (permanent, temporary or one-time) nationwide (in the context of each makhalla, district, city, region) through extensive development of information and communication technologies and Internet systems. It is the supply and demand of permanent, temporary or one-time jobs, professions and specialties in the labor market for entering information into the information system. To provide legal and physical services. In this way, the subjects of the labor market will have the opportunity to find a job or an expert, from the place (home, enterprise). Nowadays, the subjects of the Temporary Disposal Marketplace also need to work on this model: in the 21st century - in the era of Internet and

Information Communications, hiring and hiring relationships can be made without leaving home, by computer or mobile phones.

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