

**DEVELOPMENT OF A COST REDUCTION MECHANISM BY INTRODUCING INNOVATIVE TECHNOLOGIES IN CONSTRUCTION ENTERPRISES**

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**Abstract:** At present, in the developed countries of the world community, the process of rapid transition from the development of traditional scientific technology to innovative, scientific, and technological order is taking place. All types of technological and scientific innovations are being encouraged by the state through the formation of the innovative system and the state financing system. It is important to reduce cost estimates by introducing innovative technologies in construction enterprises.

**Keywords:** reduce of cost, innovative system, business analysis, construction enterprises.

**Introduction**

Implementation of the innovative development strategy of the Republic of Uzbekistan for 2019-2021, ensuring innovative and technological development in economic sectors and the social sphere, including agriculture, energy, construction, education, health care and great progress has been made in terms of promotion. Compared to 2015, our republic has risen by 36 places in the ranking of the Global Innovation Index, which is evaluated according to 81 indicators. The amount of annual funds allocated from the State budget to the fields of innovation and science has been increased by 3 times compared to 2018 and reached 1.5 trillion uzs. In 2018, there were 6,500 young scientists, and in 2022, their number was 10,800, that is, it increased by one and a half times. In the last 4 years, the number of special institutions for financing innovative activities (innovation funds, venture organizations, etc.) has increased to 28.

The scope of creativity in our country is expanding every year. New houses, large factories, modern infrastructure objects are being built. Naturally, qualified builders and designers are needed to perform such large-scale works in a high-quality and timely manner.

Considering the low level of use of information technologies in the construction sector, this, in turn, leads to time inefficiency and cost unprofitability. In particular, the processes of creating projects, carrying out expertise, issuing construction permits, and controlling construction-contracting works are still carried out on paper. A geo-information system that provides information on where and what can be built for investors and entrepreneurs has not been established, and this, in turn, shows the high costs of construction enterprises.

Currently, the following main problems that need to be solved in the field of innovative development in the near future remain:

Firstly, 600-700 thousand people enter the labor market in our country every year. Also, coverage with higher education has increased from 9 percent to 38 percent compared to 2016, and this indicator will reach 50 percent in the near future. This requires the development of effective mechanisms for providing high-tech jobs to university graduates;

secondly, comprehensive assistance to increase the employment and income of the population, by increasing the types of production organizations and services with the help of innovations in ensuring the employment of the unemployed, especially young people and women, graduates entering

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the labor market for the first time creation of new jobs, further stimulation of the activities of business entities and capital creation with the support of network organizations and clusters, venture organizations and various tools of the relevant financial markets, that is, cheap and universal production (which turns "one to a thousand") there is a great need to transition to a provision system;

thirdly, to improve and increase the volume of funding mechanisms for research and innovation projects in public-private partnerships, to attract funds from international financial organizations and funds, and to provide the necessary skills for entrepreneurship to small and innovative entrepreneurship through technology parks, innovation centers, and youth technology parks 'requires support;

fourthly, regional programs of innovative development have not been developed taking into account the economic specialization, scientific and technical potential, and existing resources of the regions, and it is required to emphasize and prioritize innovative technologies in the introduction of solutions aimed at ensuring the continuous renewal of the technical and technological base of production;

fifth, optimal support mechanisms have not been developed by accepting successful start-up projects as members of innovative technology parks and free economic zones at the stages of serial production, increasing the interest of the private sector in new scientific developments and "co-financing" of innovations (co-finance) special support measures have not been introduced to encourage interest;

sixth, in order to create cyclic relations of "radically innovative" - "sustainable" - "efficient" innovations in the republic, capital operation of innovation itself - "network-territory-scientific/higher education organization" cyclicality There is no integrated system, and its main processes remain in a very fragmented form.

#### Literature review

The analysis of scientific literature shows that the classification of factors affecting innovative activity was not developed at the same time. Many authors have focused their attention on the factors affecting the innovative activity of the enterprise. In her work, T.G. Filosofova noted the following factors that hinder innovation in industrial enterprises:

- lack of economic and financial resources, low funding from the state, high costs for innovation promotion, economic
- high level of risk, long period of innovation returns;
- production - lack of qualified personnel, new technologies, sales
- the lack of necessary information about the markets, the inability of the organization to quickly adopt innovations, the lack of well-established cooperation with other organizations, enterprises and scientific organizations;
- other factors - low price demand by consumers for innovative products, sufficient legal and regulatory frameworks for innovative activities,

Lack of regulation, insufficient stimulation of innovative activity by the state, poorly developed innovative infrastructure, lack of development in the technology market.

A.A. Bovin cites and analyzes the following factors influencing the innovation environment of the organization:

- social infrastructure (employees' access to services in educational, medical and cultural facilities);
- communication field (possibility of using communication, information resources);
- natural - geographical conditions (availability of transport, material and technical, energy, fuel and raw materials resources);

-technological and scientific-technical field (availability of development market, availability of research institutes, etc.);

-economic and financial sphere (state support of innovative activities at the national and regional level, presence of investors interested in innovative developments);

In our opinion, the given classifications cover only a small part of the factors affecting the innovative activity of the enterprise. It should be noted that the factors directly affecting innovative activity have not been identified in the scientific literature. The main goal of our research is to determine the impact of the activities of industrial enterprises on the efficiency of the regional economy based on the classification of factors affecting the innovative activity of the enterprise. In our opinion, it is appropriate to classify the factors affecting the innovative activity of the enterprise according to a number of signs. As a result of the conducted research, the following classification signs of the factors affecting the innovative activity of the enterprise can be proposed according to the level of management.

### Main part

Production of construction materials and their use in the national economy has its own history of use. Very old and most common clay was used as a building material at the beginning of human development. Over time, mankind learned to dry and burn in order to make objects of various shapes and to increase their strength. The production of ceramics has existed for several thousand years. It is known from history that binders were created artificially 4-5 thousand years ago. Among the luxurious monuments in Egypt are the tombs of the pharaohs, the pyramid of Cheops, the huge and unique temple of Amona in Karnak. The monuments were built two to four thousand years ago with stone elements. In our country, the industry of production of binders (mainly lime and gypsum) was created on the basis of the use of stone materials in constructions. For example, increased the need for building materials for buildings such as city walls, minarets, mosques and palaces, monuments of Bukhara, Samarkand, Khiva. Khorezm quarter consisted of four cylindrical towers surrounded by thick walls. The top of the tower is made flat. In the construction of such structures, ganch mixture made with additives and clay-baked flat bricks and natural stones were used. In the 10th-15th centuries and later, the peoples of Central Asia used colored bricks and glazed ceramic tiles of various colors as decorative coverings in the construction of luxurious buildings. The mausoleum of Ismail Somoni in Bukhara, built in the 10th century, Kalon, a 50-meter high brick tower in Bukhara in the 11th century, Temur and Shahi-Zinda mausoleums in Samarkand (15th century) and others are famous monuments of that time. Wood was used as the main building material until the first half of the 19th century. In the conditions of Central Asia, mainly poplar, larch, willow, walnut, mulberry and spruce were used as wood materials.

The construction industry is one of the important sectors of the global economy. Investments in construction will help create new jobs in the short term, and in the medium and long term, completed infrastructure facilities will reduce transportation costs, improve people's lives and, most importantly, accelerate economic growth.

As a result of the widespread spread of the virus, activity in the world economy has decreased this year, and it has a negative impact on the construction industry. According to the latest analysis, growth in the global construction industry in 2020 is expected to decrease to 0.5 percent from the 3.1 percent expected at the beginning of the year [1]. In the long term, the construction industry will retain its place as the driving force of the world economy. According to the PricewaterhouseCoopers company, by 2030, the global construction industry will grow by 85% and its volume will be 17.5 trillion. reaches US dollars.

Residential complexes, social sphere and engineering infrastructure, as a result of large-scale works on the construction and capital reconstruction of facilities, as well as the implementation of

investment projects on the construction and modernization of enterprises of basic branches of industry, the volume of construction works increased by 19.0% compared to 2018.

The positive contribution of the construction industry to GDP growth was 1.0 percent. Also, its share in GDP increased from 5.7% in 2017 to 6.4% in 2019. This situation can be observed in many developed and developing countries.

Growth in the construction industry is primarily due to an increase in the volume of capital investments for economic modernization projects. In particular, in 2019, 21.5 billion rubles will be allocated for the development of economic and social sectors in Uzbekistan.

USD. or compared to 2018, 133.9% of fixed capital investments were utilized. This, in turn, led to an increase in the production of construction works and construction materials. It is known that after the spread of the pandemic, the countries of the whole world are facing an economic crisis. As a part of the global community, the negative impact of the global crisis does not leave Uzbekistan alone. According to the International Monetary Fund, as a result of the pandemic, the global economy is expected to decrease by 3.0% this year. Also, there will be a decline in the economy of more than 170 countries of the world. Despite the occurrence of a crisis of this scale, international financial organizations predict that in 2020, growth will be observed in the economy of Uzbekistan, albeit at a low level. Next year, economic growth will return to its pre-crisis trend. Decisions of the President of the Republic of Uzbekistan No. PQ-4198 of February 2, 2019 and No. PQ-4335 of May 23, 2019 defined the prospects and strategy for the development of the building materials industry. If we pay attention to the analysis, at the moment there are about 10,000 enterprises producing construction materials operating in our country. In the past years, 120 types of construction materials were produced, and today

their number exceeds 180. 6 trillion in 2016 by industry. Products worth 831 billion soums were produced, and in 2019 this indicator reached 16.8 trillion soums.

**1-table**

Implementation of the innovative development strategy of the Republic of Uzbekistan in 2022-2026 (target indicators)

№	Indicators	Unit of measure	Current indicator	Indicators by years			
				2023	2024	2025	2026
1.	Improving the position of Uzbekistan in the global innovation index rating	place	86	74	68	62	56
2.	The number of innovative activity infrastructure entities (technological parks, technology transfer centers, innovation clusters, venture funds, innovation centers, business incubators and accelerators)	piece	25	45	55	65	75
3.	The number of innovative active business entities (in the total number of industrial production organizations)	piece	613	930	1 215	1 500	2 250
4.	The number of new innovative (spin-off) enterprises specializing in the production of scientific voluminous products	piece	0	14	22	28	36
5.	Share of exports of high-tech products in total exports to foreign markets	%	2,1	3	4	5	6

**Source: a collection of statistical data**

In the construction company, the sum of the annual depreciation of the fixed assets was calculated by dividing them by the balance value of the fixed assets (in percentage). The depreciation rate is calculated using the following formula:

$$H_{an} = \frac{F_1 - F_t}{T_a \times F_1}$$

Here:

F<sub>1</sub> - the initial value of the main funds;

F<sub>t</sub> - liquidation value of basic funds;

T<sub>a</sub> - amortization period or service life of fixed assets, years.

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