

MODERN METHODS OF FINANCING INNOVATIVE PROJECTS AND STARTUPS

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Annotation: The article is devoted to the study of modern methods of financing innovative projects and startups. It also develops proposals and recommendations on inter-institutional cooperation, regulatory framework, tax incentives, and effective financing strategies for innovative projects.

Key words: innovative projects, startups, financing, venture capital, business incubator, grants, financial mechanisms.

Introduction. In the context of economic development, supporting innovative activities and startup initiatives is becoming an important factor in increasing the competitiveness of the national economy. Projects based on scientific achievements, digital technologies, and modern ideas make it possible to create new products and services, diversifying the economy, and generate new jobs.

In this regard, the development and improvement of mechanisms for financial support of innovative projects is an urgent issue.

Today, in addition to traditional bank loans, modern methods such as venture capital, private investors, business angels, crowdfunding platforms, government grants and accelerator programs are widely used in financing startups. Each method has its own advantages and level of risk, and their correct choice is one of the important factors in the success of a startup.

This work analyzes modern forms of financing innovative projects, their types, practical mechanisms and possibilities for application based on the experience of Uzbekistan and foreign countries. At the same time, proposals and recommendations are developed aimed at developing the national startup ecosystem.

Analysis of literature on the topic

The role of startups and their financing mechanisms in ensuring the sustainable growth of the innovative economy is steadily increasing.

In particular, along with traditional bank loans and grants, modern financing methods such as venture capital, crowdfunding, business angels (angel investors), accelerators are widely studied in scientific circles.

At the first stage, foreign scholars deeply analyzed the diversification of financing sources and their impact on the development of startups. In a comprehensive study conducted by Drover and co-authors, the interrelationships between venture capital, corporate venture capital (CVC), crowdfunding, accelerators, and angel investments and their functional role in startups were scientifically examined. In their opinion, these types of financing are complementary and have different effects on the development of the innovation ecosystem [1].

At the next stage, scientific research focused on the issue of crowdfunding. Kaminski et al. have demonstrated, based on statistical analysis, that startups that raise capital through crowdfunding

platforms are more likely to later attract venture capital. These results support the idea that crowdfunding is not only an independent financing tool but also serves as a signaling mechanism for subsequent investment stages. [2].

The factors that ensure the success of crowdfunding have also been studied separately. Nakai and Takikawa's study found that the likelihood of successful campaigns is higher through activity in social networks and triadic social structures between participants. This indicates that social capital also plays a crucial role in modern financing mechanisms [3].

In recent years, the possibility of using artificial intelligence technologies in financing startups has also become a hot topic. Ye T., Zheng J., Jin J., Qiu J., Ai W., Mei Q found that by optimizing crowdfunding pages for startup campaigns, editing text and improving visual design with the help of artificial intelligence, the volume of investments can be increased by 11.9%. This confirms the effectiveness of technological approaches in financing innovative projects [4].

The institutional aspects of financing mechanisms have also been the subject of scientific discussion. Lerner and Nanda, assessing the role of venture capital in innovative activity, emphasize the suitability of this financial instrument for projects with high risk tolerance. At the same time, they also indicate the institutional and infrastructural factors that limit the expansion of this system [5].

Strebulaev and Gornall, analyzing valuation issues within venture capital, developed mechanisms for maintaining value accuracy in multi-stage financing schemes. They scientifically substantiated the possibility that current valuation methods may overestimate the value of startups and made regulatory proposals [6].

In particular, A.K. Tursunov, paying attention to the diversity of financing sources in stimulating innovative activity, analyzed the advantages of modern instruments such as venture capital, crowdfunding, and grants. According to the scientist, financial support for startups at the initial stage is one of the main factors determining their future success [7].

M.M. Rasulov conducted research on the role and place of business incubators and accelerator programs in financing in an innovative environment. He positively assesses the potential of technoparks and innovation centers being created in Uzbekistan and puts forward proposals for the formation of an effective financing system for these infrastructures [8].

N.Q. Yuldoshev analyzed the effectiveness of state grants and subsidies in financing startups. The study discusses the distribution, monitoring and effectiveness of funds allocated by the Innovation Development Agency and presents analytical statistics of projects financed through grants [9].

Since the 2020s, the activities of IT Parks and technology incubators, in particular, the financing processes implemented through venture funds organized by IT Park Ventures, deserve special attention. This was noted by Sh.I. Abduvohidov provides an in-depth analysis in his article. He puts forward a model of financing for innovative startups based on public-private partnerships and shows the mechanisms for the successful functioning of this system in the conditions of Uzbekistan [10].

Research methodology

The research used comparative analysis, logical analysis, systematic analysis, statistical grouping, synthesis, induction and deduction methods.

Analysis and results

In today's digital economy, financing of innovative projects and startups is emerging as one of the main driving forces of the market economy.

Along with traditional financing mechanisms (bank loans, government subsidies, grants), modern methods - venture capital, angel investors (business angels), crowdfunding platforms, accelerator programs and alternative approaches such as corporate venture capital (CVC) - are increasingly being used.

The analysis shows that venture capital is the most suitable financing tool for high-risk, but high-yielding technological startups. Although this model is widely developed mainly in the USA and European countries, venture capital funds and startup ecosystems have been forming in the CIS countries, in particular in Uzbekistan, in recent years.

Crowdfunding is a convenient, open and democratic form of public financing for small and medium-sized startups through social networks and digital platforms.

This tool serves as an important source, especially for startups that lack financial resources at the initial stage.

Accelerators and business incubators are being formed as a means of supporting startups not only financially, but also organizationally, legally and technically.

They contribute to the success of startups by strengthening relations with investors, developing marketing strategies and providing technological support.

Taking the example of Uzbekistan, structures such as the Agency for Innovative Development, IT Park, and the Ministry of Innovation and Digital Technologies are forming a system of financing the startup ecosystem through grants, accelerator programs, technoparks and tax incentives.

However, the current problems - such as the insufficiently perfect legal framework, the limited financial risk assessment system, and the uncertainty of guarantees and exit strategies for investors - are preventing the system from fully functioning. Therefore, there is a need to strengthen the institutional framework of financing mechanisms, build investor confidence, and develop innovative infrastructure (Table 1).

Comparison of modern financing methods

Table 1

Type of financing	Description	Advantages	Disadvantages	Applicable stages	Type of financing
Venture capital	Investment in exchange for shares by large investors	Large amounts of funds, mentoring	Risk of giving away a stake, loss of control	Growth and expansion stages	Venture capital
Angel investor	Sawyer investment by experienced individual investors	Quick decision, network of contacts	Subjective approach, limited resources	Start-up stage	Angel investor
Crowdfunding	Collaborative investment through crowdfunding platforms	Financing with marketing	Low sustainability, requires a lot of effort	Idea and MVP stage	Crowdfunding
Business incubator / accelerator	Technical, organizational and financial support for startups	Exchange of experience, package of services	Limited time and funds	Idea and start-up stages	Business incubator / accelerator

Government grants	Financial support provided by innovation agencies	Grants, social support	Complicated documentation, bureaucracy	Any stage	Government grants
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Table -1 shows the various forms and mechanisms of modern methods of financing startups. Each method has its own advantages and disadvantages, as well as the stages in which it is applied. Venture capital is an investment in an innovative company by large investors in exchange for a share. While it allows startups to raise large amounts of money, it also carries the risk of losing control by transferring the share to other parties. It is primarily used during the growth and expansion stages.

Angel investors are experienced investors who finance early-stage projects, who have the ability to make quick decisions and have a network of useful contacts. However, their subjective approach and limited resources can be a problem.

Crowdfunding is a financing method where small amounts of money are raised from the public. It also provides financing along with marketing, but is considered especially effective at the initial (idea, MVP) stages, due to the instability of the result and the need for a lot of effort for promotion. Business incubators and accelerators are infrastructures that support startups technically, organizationally and financially, and provide services mainly at the initial stage. They offer training, networking and mentoring opportunities. However, the amount of funding and the time of the services provided are limited.

State grants, on the other hand, are provided in the form of non-repayable funds and are of great importance as social assistance. They can be used at any stage, but the complexity of documentation and bureaucratic obstacles in the grant process can reduce efficiency (Table 2).

Financing experience across countries (comparative table)

Table 2

Country	Main financing method	State participation	Private sector participation	Number of venture funds	Crowdfunding platforms	Country
USA	VC, Angel, IPO	Low	High	2000+	150+	USA
Germany	VC, Grants, Bank loans	Medium	High	300+	60+	Germany
Israel	VC, Grant, Written guarantee	High	High	400+	30+	Israel

Uzbekistan	Grant, IT Park, VC (new)	High	Low	3–5	2–3 (developing)	Uzbekistan
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Table -2 shows the experience of different countries in financing innovative projects and startups. In the United States, the private sector dominates in financing. Venture capital, angel investors, and IPOs are the main sources, with more than 2,000 venture funds and more than 150 crowdfunding platforms operating.

In Germany, a balance is maintained between the public and private sectors. Grants, bank loans and venture capital constitute the main pillars of financing. Despite the active private sector, the state is also quite involved.

In Israel, the active participation of the state is clearly visible. In this country, along with venture capital and grants, a safe environment for investors is created through written guarantees issued by the state (government guarantees). There are more than 400 venture funds, which is consistent with the number of startups.

In Uzbekistan, the financing infrastructure is still in the formation stage. There are government grants, IT Park initiatives and newly established venture funds. However, private sector participation is still low, and the number of crowdfunding platforms is limited and in the development stage.

This comparative analysis shows the need to attract the private sector, develop the venture capital market and diversify the financial ecosystem in Uzbekistan (Table 3).

Structure of Uzbekistan's startup ecosystem (institutional table)

3-table

Entity name	Activity area	The role of financing
IT Park	Technopark conditions for startups	Acceleration, grants, investment
Innovation Agency	Support for scientific projects	Grants, competitions
Ministry of Communications	Support for digital projects	Infrastructure, regulation
IT Park Ventures	Venture investments	Investment up to \$1 million

Table 3 shows several key institutions that are playing a role in shaping Uzbekistan's startup ecosystem. IT Park, as the country's main technology park, offers acceleration, grant and investment opportunities for startups. It is becoming an important hub for startups.

The Agency for Innovative Development implements a financing mechanism through grants and competitions to support scientific and technological projects, and is a necessary platform, especially for science-related startups.

The Ministry of Communications and Information Technologies is involved in shaping the general environment by creating digital infrastructure, regulating platforms, and improving the regulatory framework.

IT Park Ventures is one of the first venture funds formed in Uzbekistan, providing an opportunity to invest up to \$1 million in innovative projects. This is an important step in attracting private investment.

Conclusion and suggestions

Modern methods of financing innovative projects and startups are becoming an important tool for creating high-tech products and services, creating new jobs, and stimulating economic growth in the modern economy.

In conclusion, based on the analysis of key projects carried out in Uzbekistan in collaboration with international financial and credit institutions, the following proposals are recommended:

- to stimulate the activities of venture capital and angel investors, it is necessary to create tax incentives, state guarantees and mechanisms that reduce financial risks for them;
- to develop alternative forms of financing, it is necessary to expand the infrastructure of crowdfunding platforms, corporate investment funds, accelerators and business incubators;
- to improve the legal framework, a simplified and transparent legislative framework should be developed that regulates relations between startups and investors, guarantees financial contracts;
- Developing strategies based on scientific and applied research, identifying key issues in the startup ecosystem, setting priorities by sector, and directing financial resources accordingly will enhance efficiency.
- it is necessary to study and implement international experience, analyze successful financing models in developed countries and adapt them to the conditions of Uzbekistan.

Therefore, for the effective functioning of modern financing mechanisms, it is crucial to simplify the legal framework, encourage private sector involvement, implement international experience, as well as develop social and technological infrastructure. If activities are carried out in harmony with each other, startups can become the main driver of economic growth and innovative development.

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