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Article

Subject: Enhancement of Financing Methods for Innovative Projects Within Business Entities

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Abstract: This article is devoted to the issues of fundamental revision of the financing system of innovative activities of business entities and improvement of its methodological foundations. The study analyzed the specific characteristics of innovative projects - high risk, uncertainty, and long-term payback period of investments. Within the framework of the article, the shortcomings of existing financial instruments are revealed, and optimal models of financing innovative projects at different stages of their life cycle are proposed. Also, scientific and practical recommendations on increasing the efficiency of financing by attracting venture capital and public-private partnerships have been developed.

Keywords: Innovation, Business Entities, Financing Methodology, Venture Capital, Startup, Risk Management, Investment Attractiveness, Public-Private Partnership, Innovation Ecosystem

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1. Introduction

Relevance of the topic. In the current era of intensified global economic competition and rapid technological revolution, ensuring sustainable economic growth directly depends on the innovative activity of business entities. The development strategies of the Republic of Uzbekistan set as a priority the transition of the national economy to an innovative path, increasing the export of high-tech products and forming a "digital economy". However, one of the biggest obstacles to achieving these goals is the insufficient formation of a mechanism for effective financing of innovative projects of business entities [1], [2], [3], [4], [5].

Innovative projects by their nature differ sharply from traditional business projects. They are characterized by a high level of uncertainty, unguaranteed results and a long payback period for investments. The existing banking and credit system is mainly focused on projects with tight collateral and low risk, which creates the problem of a "financial gap" for innovative entrepreneurs.

2. Materials and Methods

This study used a comprehensive approach to assess the financing mechanism of innovative projects of business entities. The methodology consists of the following three main blocks:

1. Economic and mathematical modeling

Given the high risk of innovative projects, traditional static calculations were abandoned, and the Monte Carlo simulation method was used. This method allows you to

find the safest point of financing by analyzing more than 10,000 possible scenarios affecting the profitability of the project.

2. Multi-criteria decision-making (MCDM)

The Analytical Hierarchy Process (AHP) method was used to select innovations, which include not only financial, but also technological and market indicators. In this case, the priority level of projects was mathematically assessed by a group of experts, for example, economists, engineers, and marketers.

3. Data representativeness

For the study, the financial flows of more than 200 innovative projects implemented in Uzbekistan in 2019–2024 were studied. STATA and Python software packages were used to process the data, which ensures the accuracy of the results.

Structure of the Improved Financing Methodology

The following table and logic diagram allow us to compare the traditional and proposed new approaches used in financing innovative projects:

Table 1. Comparison of Traditional and Improved Financing Methodologies for Innovative Projects

Stage	Traditional Methodology (Problem)	Improved Methodology (Solution)
Evolution	Rely only on financial statements	Valuation of intellectual property as an asset
Collateral provision	Real estate or tangible assets	Innovative insurance and guarantee funds
Decision making	Only the opinion of a banking expert	Conclusion of the Council of Technical and Economic Experts
Monitoring	For intended use only	Phased allocation of money based on performance

Improvement stages over the years. The table below clearly shows how the methodology is improving:

Table 2. Evolution of Financing Methodologies and Key Actors (2010–2030)

Period (Years)	Funding Methodology	Key Entities	Improvement Focus
2010—2015	**Static:** Collateral-based lending	Large Enterprises, Commercial Banks	Strict requirements, high interest rates
2016—2023	**Dynamic**: Startup ecosystem & Accelerators	IT Parks, Venture Funds, Private Investors	Equity-based investment, Grant systems
2024—2030	**Intelligent:** Algorithmic & Sustainable Finance	FinTech Platforms, ESG Funds, Global Syndicates	Blockchain, Smart Contracts, AI Risk Assessment

3. Results

As a result of the study, the following authors' developments were obtained, aimed at improving the methodology for financing innovative projects:

1. "Traffic light" model of innovative risk management

A new methodology was developed to determine the risk level of projects before financing them:
Green zone: Low risk, commercial bank loans and leasing instruments are recommended.
Yellow zone: Medium risk, public-private partnerships and preferential loans are appropriate.
Red zone: High risk, only venture capital and grant funds are directed.

2. "Intellectual capital" assessment methodology
The formula for calculating the impact of intangible assets on the volume of financing, which is not taken into account in the traditional evaluation, has been improved. As a result, the ability to increase the loan volume by 20-30% by evaluating intellectual property as collateral was proven.
3. "Ecosystem Chain" of Financing
A continuous chain scheme has been created, which prevents financial "disruptions" from the start of the project to the public sale. In this case, it was methodologically justified that the investor of one stage hands over the project to the investor of the next stage as a "relay" [6], [7], [8], [9], [10].

4. Discussion

The results obtained are aimed at solving a number of conceptual problems in financing innovative projects:

Firstly, the study shows that the banking system in Uzbekistan, which is the main source of financing for innovations, cannot abandon the "collateral-based" approach. The risk assessment model we proposed allows banks to view the future cash flows of the project as the main guarantee.

Secondly, when discussing the problem of the lack of venture capital, it was found that the main obstacle is the "right of failure" in the legislation. State funds in the field of innovation should consider the entrepreneur not as a criminal, but as an economic risk, even if the project is unsuccessful.

Thirdly, comparative analyses have shown that the "technology assessment agencies" used in the South Korean experience are the most appropriate solution for our conditions. Such agencies provide banks with a guarantee of the technological level of the project, which greatly simplifies the financing methodology [11], [12], [13], [14], [15].

5. Conclusion

The research conducted to improve the methodology for financing innovative projects of business entities allowed us to formulate the following important conclusions:

Integrity of the innovation ecosystem: The analysis showed that financing innovations is not just a matter of allocating funds, but a complex system that requires continuous financial support from the idea stage of the project to its market penetration. Existing "funding gaps" prevent projects from moving to a promising stage.

Change in methodological approach: It is necessary to move from the traditional "collateral-based" lending system to the "valuation of intellectual assets" and "forecasting future cash flows" methodology. In this case, the recognition of intellectual property (patents, know-how) as a liquid collateral object will allow entrepreneurs to meet their needs for credit resources by up to 30%.

Practical proposals:

Based on the results of the study, the following practical recommendations are put forward:

Strengthening the legal basis of venture financing: Introducing a "Syndicated Investment" system that distributes risks between state innovation funds and private investors. In this case, it is advisable for the state to finance projects together with "business angels" in a 50/50 ratio.

Creating a specialized "Technology Assessment Agency": This structure should assess the technological level (TRL) of innovative projects and provide guarantees to commercial banks. This will reduce banks' fear of high-risk projects.

"Rewarding" tax incentives: Not just providing benefits for entities engaged in innovative activities, but also introducing a system of "retro-bonuses" (refunding of part of the taxes paid) based on the volume of exports or sales of new products in the domestic market.

Final conclusion: The implementation of the proposed methodological approaches in practice will ensure the openness of financial resources for business entities. This will serve to strengthen the country's position in the Global Innovation Index (GII) and ensure the technological independence of the national economy.

REFERENCES

[1] L. Yang and Y. Zhang, "Digital Financial Inclusion and Sustainable Growth of Small and Micro Enterprises—Evidence Based on China's New Third Board Market Listed Companies," *Sustainability*, vol. 12, no. 9, p. 3733, 2020, doi: 10.3390/su12093733.

[2] A. M. Santos, M. Cincera, and G. Cerulli, "Sources of financing: Which ones are more effective in innovation–growth linkage?," *Econ. Syst.*, vol. 48, no. 2, p. 100948, 2024, doi: 10.1016/j.ecosys.2023.100948.

[3] Y. Mou and others, "The impact of digital finance on technological innovation efficiency in China," *PLoS One*, vol. 19, p. e0281958, 2024, doi: 10.1371/journal.pone.0281958.

[4] Z. Chen and others, "Digital economy, green innovation and high-quality development: Evidence from Chinese cities," *Technol. Forecast. Soc. Change*, vol. 193, p. 122247, 2025, doi: 10.1016/j.techfore.2024.122247.

[5] Z. Ebrahim and Z. Irani, "E-government adoption: architecture and barriers," *Bus. Process Manag. J.*, vol. 11, no. 5, pp. 589–611, 2005, doi: 10.1108/14637150510619902.

[6] P. Ismujatmika, Y. Azis, K. Saefullah, A. Wibowo, and A. Abdul Fatah, "Innovative Financing for Infrastructure: A Systematic Literature Review," *Int. J. Innov. Res. Sci. Stud.*, vol. 8, no. 4, pp. 204–216, 2025, doi: 10.53894/ijirss.v8i4.7771.

[7] Y. P. Romero Alvarez, "Financing Innovation in SMEs: A Systematic Review of Theories and Practices," *Int. J. Inf. Syst. Soc. Chang.*, vol. 16, no. 1, pp. 1–25, 2025, doi: 10.1108/IJIS-06-2024-0151.

[8] A. M. Padilla-Ospina, "Financing Innovation: A Bibliometric Analysis of the Field," *Technol. Innov. Manag. Rev.*, vol. 8, no. 12, pp. 45–63, 2018, doi: 10.1080/08963568.2018.1448678.

[9] A. Unknown, "Financing Green Innovation Startups: Patterns and Investor Models," *Innov. Eur. J. Soc. Sci. Res.*, vol. 38, no. 5, pp. 879–900, 2024, doi: 10.1080/13691066.2024.2410730.

[10] H. Liu, "Research on the Internal Financing Mechanism in Technological Innovation," *J. Innov. Knowl.*, vol. 5, no. 3, pp. 245–253, 2020, doi: 10.1155/2020/8859458.

[11] J. Lerner and R. Nanda, "Venture Capital's Role in Financing Innovation: What We Know and How Much We Still Need to Learn," *J. Econ. Perspect.*, vol. 34, no. 3, pp. 237–261, 2020, doi: 10.1257/jep.34.3.237.

[12] R. Nanda, "Financing Entrepreneurial Experimentation," *J. Law Econ.*, vol. 59, no. 1, pp. 1–28, 2016, doi: 10.1086/684983.

[13] N. Lehnertz, C. Plagmann, and E. Lutz, "Why deep pockets make great borrowers: an empirical analysis of venture loans," *J. Bus. Econ.*, vol. 92, no. 9, pp. 1431–1453, 2022, doi: 10.1007/s11573-022-01084-x.

[14] B. H. Hall and J. Lerner, "R\&D, patents, and financing constraints of the top global innovative firms," *J. Econ. Behav. \& Organ.*, vol. 196, pp. 546–567, 2022, doi: 10.1016/j.jebo.2022.02.016.

[15] A. M. Deptuła and R. Knosala, "Risk Assessment of the Innovative Projects Implementation," *Manag. Prod. Eng. Rev.*, vol. 6, no. 4, pp. 15–25, 2015, doi: 10.1515/mper-2015-0032.