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PRACTICE OF FOREIGN COUNTRIES IN PROVIDING FINANCING FOR ENTREPRENEURS' INNOVATIVE INITIATIVE



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Abstract: The article examines the international experience of financing innovative business projects as a key factor in their successful development. Special attention is paid to analyzing financing mechanisms in countries such as the United States, Germany, China, Finland, and Sweden. The study highlights the features of venture capital, public-private partnerships, grant programs, and government investments, as well as their impact on promoting innovation activity. Examples of successful programs and strategies that contribute to the creation of new technologies, the development of high-tech startups, and enhancing the competitiveness of enterprises are presented. The study identifies the strengths and weaknesses of various approaches to financing innovation and explores the possibilities of adapting them for Russia. Practical recommendations are proposed to improve financing mechanisms for innovative projects in the domestic economy, including the development of venture financing, state support for startups, and attracting private investment through tax incentives.

Key words: innovation financing, international experience, venture capital, government support, grant programs, public-private partnerships, innovative projects, high-tech startups, financing mechanisms.

Annotatsiya: Maqolada innovatsion biznes loyihalarini moliyalashtirish bo'yicha xalqaro tajriba ularning muvaffaqiyatli rivojlanishining asosiy omili sifatida ko'rib chiqiladi. AQSh, Germaniya, Xitoy, Finlyandiya va Shvetsiya kabi davlatlardagi moliyalashtirish mexanizmlarini tahlil qilishga alohida e'tibor qaratiladi. Tadqiqotda venchur kapitali, davlat-xususiy sheriklik, grant dasturlari va davlat investitsiyalarining xususiyatlari hamda ularning innovatsion faollikni rag'batlantirishdagi ta'siri yoritiladi. Yangi texnologiyalar yaratish, yuqori texnologiyali startaplarni rivojlantirish va korxonalar raqobatbardoshligini oshirishga xizmat qiluvchi muvaffaqiyatli dasturlar va strategiyalar misol sifatida keltiriladi. Tadqiqotda innovatsiyalarni moliyalashtirishning turli yondashuvlarining kuchli va zaif tomonlari aniqlanadi hamda ularni Rossiya sharoitiga moslashtirish imkoniyatlari o'rganiladi. Mahalliy iqtisodiyotda innovatsion loyihalarni moliyalashtirish mexanizmlarini takomillashtirish uchun amaliy tavsiyalar, jumladan venchur moliyalashtirishni rivojlantirish, startaplarni davlat tomonidan qo'llab-quvvatlash va soliq imtiyozlari orqali xususiy investitsiyalarni jalb etish bo'yicha takliflar bildiriladi.

Kalit so'zlar: innovatsiyalarni moliyalashtirish, xalqaro tajriba, venchur kapital, davlat qo'llab-quvvatlashi, grant dasturlari, davlat-xususiy sheriklik, innovatsion loyihalar, yuqori texnologiyali startaplar, moliyalashtirish mexanizmlari.

Аннотация: В статье рассматривается зарубежный опыт финансирования инновационных проектов субъектов бизнеса как ключевого фактора их успешного развития. Особое внимание уделено анализу механизмов финансирования в таких странах, как США, Германия, Китай, Финляндия и Швеция. Рассмотрены особенности венчурного капитала, государственно-частного партнерства, грантовых программ и государственных инвестиций, а также их влияние на стимулирование инновационной активности. Приведены примеры успешных программ и стратегий, которые способствуют созданию новых технологий, развитию высокотехнологических стартапов и повышению конкурентоспособности предприятий. В результате исследования выявлены сильные и слабые стороны различных подходов к финансированию инноваций, а также возможности их адаптации для России. Предложены практические рекомендации для совершенствования механизмов финансирования инновационных проектов в отечественной экономике, включая развитие венчурного финансирования, государственную поддержку стартапов и привлечение частных инвестиций через налоговые льготы.

Ключевые слова: финансирование инноваций, зарубежный опыт, венчурный капитал, государственная поддержка, грантовые программы, государственно-частное партнерство, инновационные проекты, высокотехнологические стартапы, механизмы финансирования.

INTRODUCTION

In the contemporary global economy, the ability of entrepreneurs to generate and commercialize innovative ideas has become a decisive factor of national competitiveness and sustainable growth. Many countries have adopted comprehensive financial mechanisms aimed at supporting innovation-driven entrepreneurial activity, recognizing that early-stage ventures often face structural barriers such as limited access to capital, high technological risks, and insufficient market validation. In this context, international experience in financing innovative initiatives provides valuable insights for shaping effective policy frameworks and institutional instruments.

Advanced economies such as the United States, Germany, Japan, and South Korea have developed diversified systems of innovation finance that combine public funding, private investment, and hybrid models including venture capital, accelerators, government-backed guarantees, and targeted grant programs. These mechanisms not only stimulate the creation of high-tech startups but also ensure the scalability of entrepreneurial projects by reducing financial risks and strengthening innovation ecosystems. The global practice demonstrates that state support, when efficiently integrated with market-based instruments, significantly enhances the resilience and innovative capacity of small and medium-sized enterprises.

Studying these foreign models is especially relevant for developing countries seeking to accelerate technological modernization and improve the quality of entrepreneurial infrastructure. A systematic analysis of global financing tools enables the identification of best practices that can be adapted to national conditions, contributing to the development of a dynamic, innovation-oriented business environment. This article examines the approaches used in various foreign countries to finance entrepreneurs' innovative initiatives, highlighting their structure, mechanisms, and policy implications for fostering sustainable economic development.

REVIEW OF LITERATURE ON THE SUBJECT

The financing of entrepreneurs' innovative initiatives has been extensively examined across international empirical and theoretical research. Early contributions by Joseph Schumpeter emphasized that innovation-driven entrepreneurship requires targeted financial support because traditional credit markets tend to avoid projects with high uncertainty and intangible assets. Later studies reinforced this idea by demonstrating that innovation financing plays a structural role in national development. For example, the work of Mariana Mazzucato highlighted the importance of mission-oriented state investment in enabling technological breakthroughs, arguing that public institutions often serve as the first and most critical risk-takers in innovation processes.

Research on venture capital and private equity provides additional insights into how advanced countries structure innovation finance. Paul Gompers and Josh Lerner showed that venture capital markets thrive in environments with strong legal protections, tax incentives, and well-developed financial systems. Their findings reveal that the United States' leadership in high-technology entrepreneurship is closely linked to its diversified venture capital ecosystem, which supports entrepreneurs at early and growth stages. Similarly, Josh Lerner's broader empirical work demonstrated that government-sponsored venture programs, when correctly designed, significantly enhance the performance of private investment funds.

European models of innovation financing have also attracted considerable scholarly attention. Studies by Reinhilde Veugelers on EU innovation policy emphasize the complementarities between public research funding, private venture capital, and collaborative networks. She notes that programs such as Horizon Europe play a pivotal role in addressing financing gaps for small and medium-sized enterprises. Meanwhile, the research of Bronwyn H. Hall on innovation economics demonstrated that R&D tax incentives used in countries like France, the United Kingdom, and Canada effectively stimulate private-sector innovation expenditure.

Asian experiences offer rich examples of state-led yet market-driven financial mechanisms. Jong-In Kim and his colleagues studied South Korea's innovation ecosystem and found that government-backed venture funds, technology guarantee schemes, and large-scale industrial clusters helped transform the country into a global innovation leader. In Japan, studies by Kazuyuki Motohashi illustrated how public-private financial institutions, including the Japan Finance Corporation, mitigate technological risks for startups through long-term credit and innovation-specific lending frameworks.

Research focused on developing countries further underscores the importance of institutional quality and policy consistency. Studies by Thorsten Beck and Asli Demirgüç-Kunt concluded that financial development alone is insufficient; successful innovation financing requires transparent regulatory environments, effective contract enforcement, and strong support for early-stage entrepreneurship. Their comparative analyses indicate that countries with well-structured innovation policies—not merely higher capital availability—achieve higher rates of patenting, technology adoption, and startup survival.

Overall, the global literature demonstrates that successful models of financing entrepreneurs' innovative initiatives rely on a balanced combination of public investment, market-based instruments, and regulatory frameworks that reduce risk and encourage experimentation. These findings underline the value of studying international experience to identify policy elements that may be adapted for countries seeking to strengthen their innovation ecosystems.

RESEARCH METHODOLOGY

The research methodology is based on the collection of secondary data from international reports, policy documents, academic publications, and statistical databases related to innovation financing practices. Comparative analysis is used to evaluate cross-country mechanisms, while content analysis helps identify common patterns, policy instruments, and institutional models. The data are synthesized to derive evidence-based conclusions on effective approaches to financing entrepreneurial innovation.

ANALYSIS AND RESULTS

In various countries, distinct models of supporting and financing innovative projects have emerged, reflecting national economic priorities, institutional capacities, and the level of development of the entrepreneurial environment. Although their approaches vary significantly, the central objective remains the same: to stimulate innovation-driven growth and strengthen the competitiveness of the national economy. A comparative examination of these models provides valuable insights into the configuration of effective financial mechanisms, the role of the state, and the contribution of private capital to the development of high-technology sectors.

In the United States, a highly developed venture ecosystem plays a central role in financing innovative entrepreneurial initiatives. Venture capital funds such as Andreessen Horowitz, Sequoia Capital, Accel, and Kleiner Perkins invest aggressively in high-risk innovations in the IT sector, biotechnology, space technologies, and artificial intelligence. The structural advantage of the U.S. model lies not only in the large volume of private capital but also in its strong orientation toward risk-taking and scaling. Investors are willing to finance early-stage projects with weak collateral and uncertain outcomes, guided by potential exponential returns rather than traditional financial indicators. This investment philosophy, supported by legal and institutional conditions that protect investor rights, has resulted in the formation of powerful innovation clusters in Silicon Valley, Boston, and Austin.

Government mechanisms complement private capital and play an essential systemic role. The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs provide startups with access to non-reimbursable grants for applied research and prototype development. The National Science Foundation and the National Institutes of Health co-finance scientific studies with high potential for commercialization. Cooperation between the state and private companies often occurs through government contracts. The success of SpaceX demonstrates the effectiveness of this model: long-term NASA and Department of Defense contracts have ensured stable financial flows, enabling the company to accelerate technological development, reduce the cost of space launches, and dominate the global market. This synergy illustrates how properly structured public-sector demand can stimulate the growth of large-scale private innovators.

Germany relies on a model of close cooperation between the state and the private sector, reflecting its broader coordinated market economy. The national High-Tech Strategy program targets key technological priorities such as digitalization, energy efficiency, mobility, and biomedical technologies. Within this framework, the Federal Ministry of Education and Research allocates substantial funds for subsidizing early-stage innovative projects. A distinctive feature of the German model is the central importance of development banks. Through KfW and its innovation programs, small and medium-sized enterprises receive preferential loans at reduced interest rates, which lower financial risks and allow firms to invest more in R&D activities. These loans are often combined with advisory services and government guarantees, further stabilizing the financial environment.

Private initiatives also play an active role in supporting the innovation sector. The emergence of Berlin, Munich, and Hamburg as major startup hubs reflects the success of hybrid ecosystems that combine university research centers, corporate accelerators, and investment funds. German corporations—including Siemens, Bosch, and Volkswagen—operate extensive open innovation platforms and corporate venture funds, creating channels for technology transfer and commercialization. The coordinated nature of the system ensures a balanced distribution of risks, strong protection of intellectual property, and long-term strategic planning.

China promotes innovation predominantly through strong state participation, aligned with its centrally planned industrial modernization strategy. Major financial institutions such as the China Development Bank, Export-Import Bank of China, and the Silk Road Fund provide large-scale, long-term financing for strategic industries. These include artificial intelligence, quantum technologies, green energy, semiconductors, and electric

vehicle production. China's innovation financing is characterized by direct state investment, heavy subsidies, tax incentives, and long-term preferential lending. Industrial clusters such as Shenzhen (electronics), Hangzhou (digital commerce), and Wuhan (optical technologies) benefit from large injections of state capital, accelerated infrastructure construction, and the integration of private companies into centralized development plans.

The government also guides the creation of venture capital markets. State-backed funds such as the National Integrated Circuit Industry Investment Fund mobilize billions of dollars to reduce technological dependency on foreign suppliers. Furthermore, China's "national champions" strategy encourages the rapid expansion of large firms capable of competing globally. However, this model carries risks associated with excessive state regulation, resource misallocation, and limited competitive pressure. The rapid scaling of companies may sometimes outpace technological capability, creating vulnerabilities in sectors reliant on foreign technologies.

Scandinavian countries demonstrate a model of stable institutional support for innovation, emphasizing transparency, inclusivity, and equal access to financing. Finland's Tekes (now Business Finland) is one of the most advanced public agencies globally in supporting innovation. It offers extensive grant and loan programs for startups and R&D-intensive companies, ensuring steady funding for technological development. Tekes' approach is characterized by predictable financing cycles, stringent project evaluation standards, and strong cooperation between universities and industry.

Sweden adopts a similar model through the Vinnova agency, which supports research commercialization, industry-academia partnerships, and the formation of venture platforms. Sweden's innovation ecosystem benefits from a strong culture of digitalization, social trust, and high investment in education. Venture capital availability is relatively high compared to other European countries, and government incentives support private investors through co-financing schemes. These mechanisms have enabled Sweden to become home to globally recognized technology companies such as Spotify, Klarna, and Ericsson.

A comparative analysis of these international models reveals several strengths and weaknesses. The high efficiency of venture financing in the United States demonstrates how effectively private capital can stimulate innovation when coupled with transparent markets, strong investor rights, and a culture of entrepreneurship. However, this model often leads to investment concentration in specific high-growth sectors, which may limit the diversity of innovations.

Germany shows a successful combination of private and public investment, ensuring stable growth in technological sectors. Its coordinated approach fosters long-term planning and minimizes market volatility. At the same time, Germany's system can be relatively slow in rapidly evolving technological fields due to its strong regulatory framework and consensus-based decision-making.

China's model is characterized by long-term state investment in infrastructure and innovation, enabling rapid industrial upgrades and the emergence of large-scale ecosystems. Yet challenges arise from bureaucratic inefficiencies, potential overinvestment, and the risk of dependency on state subsidies. The speed of scaling sometimes leads to structural imbalances, such as duplication of projects or insufficient evaluation of commercial viability.

Scandinavian countries combine institutional stability with an inclusive innovation environment. Their small population sizes enable flexible policy design and rapid adaptation. However, their innovation financing systems depend heavily on high levels of taxation and government spending, which may not be replicable in larger economies.

For Russia, studying these international best practices opens opportunities to adapt the most effective components. The development of a venture infrastructure could expand the attractiveness of innovative entrepreneurship. Establishing specialized development banks and sectoral funds would diversify sources of long-term financing for technology projects. Introducing tax incentives for private investors—similar to U.S. angel investor policies or U.K. Enterprise Investment Schemes—could strengthen interest in startup investment. Strengthening intellectual property protection and improving the regulatory environment would encourage private-sector participation in innovation financing.

Beyond adapting foreign models, Russia may consider stimulating university-industry partnerships, supporting regional technology clusters, and developing national platforms for technology transfer. Emphasis on digital infrastructure, transparent financing procedures, and reducing administrative barriers will be necessary to form a more sustainable innovation ecosystem. Integrating these components can foster competitive advantages in strategic sectors such as artificial intelligence, aerospace, energy technologies, and advanced materials.

CONCLUSIONS AND SUGGESTIONS

The analysis of international approaches to financing innovative entrepreneurial initiatives demonstrates that effective innovation ecosystems emerge where public institutions, private capital, and regulatory frameworks

operate in a complementary manner. Countries with stable financial mechanisms, transparent rules, and long-term innovation strategies achieve higher rates of technological advancement and stronger competitiveness. The comparative examination of models in the United States, Germany, China, and Scandinavia shows that there is no universal approach; rather, each system reflects its economic structure, institutional traditions, and strategic goals. However, they share a common principle: innovation flourishes when entrepreneurs have predictable access to funding, supportive infrastructure, and an environment that reduces uncertainty and encourages experimentation.

For countries seeking to strengthen their innovation systems, the most promising direction lies in adapting successful international elements to national conditions. This includes fostering venture capital markets, creating specialized development banks, improving intellectual property protection, and expanding cooperation between universities and industry. Policies that offer tax incentives to private investors, reduce administrative barriers, and support early-stage research can further stimulate entrepreneurial activity. Establishing transparent evaluation mechanisms for innovative projects and ensuring continuity of public funding will contribute to building a resilient innovation ecosystem capable of accelerating technological modernization and supporting sustainable economic growth.

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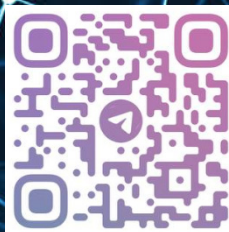
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