

DOI <https://doi.org/10.30525/2592-8813-2026-2-12>

STRATEGIC MANAGEMENT OF US INNOVATION SYSTEMS IN THE CONTEXT OF GLOBAL MODELS OF INNOVATION MANAGEMENT

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Abstract. This article presents a comparative analysis of strategic management of innovation systems in the United States within the context of global innovation management models. The methodological framework of the study is based on the classification approach to innovation system management models proposed by O. Likhota, which includes criteria such as the level of government intervention, institutional structure, R&D funding mechanisms, the role of public-private partnerships, and the effectiveness of intellectual property protection. The study employs a systemic-comparative approach to analyze strategic management models in the United States, the European Union, China, and Israel. The results of the study show that the effectiveness of national innovation systems is largely determined by the quality of strategic management and the ability to balance government regulation with market mechanisms. The findings contribute to the theoretical development of innovation management and can be applied in the formulation of national innovation policy.

Key words: strategic management, innovation systems, United States, innovation governance, R&D, public-private partnership, global models.

Introduction. In today's global economy, innovation serves as a key factor in ensuring sustainable economic growth, enhancing the competitiveness of national economies, and shaping new technological paradigms. Amid intensifying global competition, digital transformation, and the transition to a knowledge-based economy, the effectiveness of innovation systems has become of strategic importance to the state.

At the same time, innovation cannot be viewed solely as a result of market mechanisms. The experience of leading countries worldwide shows that strategic management plays a key role in ensuring the effectiveness of innovation processes; it shapes institutional conditions, sets development priorities, and ensures coordination among the main actors of the innovation system – the state, business, and the science and education sector.

Research on the strategic management of innovation systems is of particular relevance in the context of global models for managing innovation activities. The scientific literature has developed a number of approaches to understanding innovation systems, among which the concept of national innovation systems occupies a leading position, emphasizing the interaction of institutions and their role in the creation and dissemination of knowledge. In parallel, the concept of open innovation is developing, which emphasizes the importance of integrating external and internal sources of knowledge in the innovation process.

At the same time, contemporary research is increasingly focusing on the role of the state as an active agent in innovation policy. In particular, the “entrepreneurial state” approach justifies the need for strategic state intervention in the formation and development of innovation markets, especially in high-risk sectors. This indicates that the effectiveness of innovation systems depends to a significant extent not only on the level of resource provision but also on the quality of strategic management.

Despite the significant number of scientific works devoted to the study of innovation systems, the problem of determining the optimal model of strategic management remains unresolved. Different countries demonstrate different approaches to managing innovation activities, which is due to the

historical, economic, and institutional characteristics of their development. In this context, a comparative analysis of global models for managing innovation systems is of particular interest, as it allows for the identification of their strengths and weaknesses.

In particular, the U.S. model is traditionally regarded as one of the most effective in the world due to its combination of market mechanisms with elements of strategic government regulation. It is characterized by a high degree of decentralization, a significant role for the private sector, and a well-developed venture capital infrastructure. At the same time, the European model is marked by a higher level of institutional coordination and a focus on sustainable development, the Chinese model by a high degree of centralization and government control, and the Israeli model by high dynamism and an entrepreneurial orientation.

Despite this, contemporary academic literature does not devote sufficient attention to a comprehensive analysis of the strategic management of innovation systems specifically through the lens of global management models. There is a need to systematize approaches to classifying such models, as well as to develop analytical tools that allow for their comparison based on standardized criteria.

In this context, it is important to use the approach to classifying innovation management models proposed by O. Likhota, which allows for the analysis of innovation systems based on parameters such as the level of government intervention, institutional structure, R&D funding mechanisms, the role of public-private partnerships, and the effectiveness of intellectual property protection (Likhota, 2025). The application of this approach creates an opportunity for a comprehensive comparative analysis of innovation systems in different countries.

Thus, the research problem lies in the need to identify the characteristics of the strategic management of the U.S. innovation system and its place among global models of innovation management. Solving this problem has both theoretical and practical significance, as it allows for the formulation of recommendations for improving national innovation policy in the context of global transformations.

Main text. The issue of strategic management of innovation systems is the subject of active scientific discourse in the foreign literature, where a number of conceptual approaches have been developed to understand the mechanisms of innovation activity at the national and global levels. Significant contributions to the development of this topic have been made by scholars such as R. Nelson, B.A. Lundvall, G. Chesbrough, M. Mazzucato, F. Malherbe, and D. Teece, whose works form the theoretical and methodological foundation of modern strategic innovation management.

One of the fundamental approaches to the study of innovation systems is the concept of national innovation systems developed by Richard Nelson. In his works, the innovation system is viewed as a set of institutions whose interaction ensures the creation, dissemination, and utilization of knowledge. The researcher pays particular attention to the role of government policy in shaping a favorable innovation environment, emphasizing that the effectiveness of innovation depends on the coordination of actions among various institutional actors (Nelson, 1993).

Bengt-Åke Lundvall further developed this concept, focusing on learning and knowledge-sharing processes as key elements of the innovation system. He emphasizes that innovation is the result of an interactive process in which network connections between enterprises, research institutions, and government agencies play a crucial role. This approach allows us to view innovation systems not merely as institutional structures, but as dynamic networks of interaction (Lundvall, 1992).

An important area of contemporary research is the concept of open innovation proposed by Henry Chesbrough. According to this approach, innovation processes extend beyond the boundaries of individual organizations and involve the active use of external knowledge sources. This significantly changes approaches to strategic management, as companies and governments are forced to integrate external resources into their own innovation strategies, forming open innovation ecosystems (Chesbrough, 2003).

Mariana Mazzucato has made a significant contribution to the development of the theory of strategic innovation management by establishing the concept of the “entrepreneurial state.” In her research, she argues that the state plays not only a regulatory role but also an active investment role in the development of innovation, particularly in high-tech sectors. Her approach emphasizes the importance of strategic state intervention as a factor in the formation of new markets and technological breakthroughs (Mazzucato, 2013).

Franco Malerba further developed the systemic approach to innovation by proposing the concept of sectoral innovation systems. He argues that the characteristics of innovation activities depend to a significant extent on the specifics of individual sectors, which requires a differentiated approach to strategic management. Such an approach allows for sector-specific characteristics to be taken into account when formulating innovation policy (Malerba, 2002).

Christopher Freeman made a significant contribution to the development of the theoretical foundations of innovation, being one of the first to systematize approaches to the analysis of innovation systems at the national level. His research emphasizes the role of technological change as a key driver of economic development and the need for strategic management of innovation processes (Freeman, 1987).

From the perspective of strategic management, David Teece devotes significant attention to innovation, having developed the concept of dynamic capabilities. It explains how organizations can adapt to rapid changes in the external environment by integrating, building, and reorganizing internal and external competencies. This approach is particularly important for understanding the strategic management of innovation systems in conditions of high uncertainty (Teece, 2007).

Summarizing the contributions of the above-mentioned researchers, it should be noted that contemporary international scholarship views innovation systems as complex, multi-level structures whose effectiveness is determined by the quality of strategic management, the level of institutional interaction, and the ability to adapt in the face of global change. At the same time, existing approaches differ in their focus: some concentrate on the role of institutions, others on knowledge exchange processes, and still others on the strategic role of the state or enterprises.

An analysis of foreign studies indicates the absence of a single universal approach to managing innovation systems, which necessitates further research in the direction of a comparative analysis of global models of strategic management of innovation activities.

In domestic scientific literature, the issue of strategic management of innovation systems has also seen significant development, particularly in the context of Ukraine’s economic transformation processes and its integration into the global innovation space. Ukrainian researchers focus on adapting global approaches to national conditions, as well as on developing an effective model of state innovation policy. Among the leading scholars in this field, O. Likhota, V. Heyets, and A. Chukhn deserve special mention.

Oleksandr Likhota has made a significant contribution to the development of research methodology for innovation systems by proposing a classification-based approach to analyzing global models of innovation management. His approach is based on the systematization of innovation systems according to key criteria, such as the level of government intervention, institutional structure, R&D funding mechanisms, the role of public-private partnerships, and the effectiveness of intellectual property protection. Using this approach allows for a comprehensive comparative analysis of innovation systems in different countries and an assessment of the effectiveness of their strategic management (Likhota, 2025).

Valerii Heiets made a significant contribution to the study of the institutional foundations of innovation development, viewing innovation as a key factor in the structural modernization of the economy. His works emphasize the need to formulate effective state policies aimed at supporting innovation, developing scientific and technical potential, and integrating Ukraine into the global innovation ecosystem. He pays particular attention to the role of institutions in ensuring the stability and predictability of innovation development (Heiets, 2018).

Anatoliy Chukhno explores the theoretical aspects of economic development and innovative transformation, viewing innovation as the foundation for the formation of a post-industrial economy. His works emphasize the importance of knowledge, technologies, and intellectual capital as key resources for modern development, as well as the need for a strategic approach to managing innovation processes (Chukhno, 2003).

Summarizing the approaches of Ukrainian researchers, it should be noted that they emphasize the need for an active role of the state in shaping the innovation system, developing the institutional environment, and integrating into global innovation processes. At the same time, unlike foreign approaches, domestic research pays more attention to the problems of a transitional economy, institutional instability, and resource constraints.

An analysis of the works of Ukrainian scholars indicates the formation of a national scientific school for the study of innovation systems, which combines the adaptation of international experience with an account of the specifics of Ukraine's socio-economic development. This creates a foundation for the further development of the theory and practice of strategic management of innovation activities.

The purpose of this article is to conduct a comprehensive study of the characteristics of strategic management of the U.S. innovation system in the context of global models of innovation management, as well as to identify the key factors ensuring its effectiveness and competitiveness in the current conditions of globalization.

Achieving this objective involves addressing a series of interrelated research tasks. First, a theoretical synthesis of contemporary approaches to the strategic management of innovation systems is conducted, specifically focusing on the concepts of national innovation systems, open innovation, and the role of the state as an active agent in innovation policy. Second, global models of innovation management are systematized using a classification approach, which allows for the identification of their main characteristics and institutional features.

Particular attention is paid to analyzing the U.S. model as an example of the effective combination of market mechanisms with elements of strategic public governance. The study examines aspects such as the level of management decentralization, the role of the private sector, mechanisms for funding research and development (R&D), the development of public-private partnerships, and the effectiveness of the intellectual property protection system.

In addition, the article aims to conduct a comparative analysis of the U.S. innovation system with other global models, specifically the European, Chinese, and Israeli ones. This approach allows for identifying common and distinctive features of strategic management of innovation activities, as well as determining the factors influencing the effectiveness of innovation systems under different institutional conditions.

Presentation of the main research material. Strategic innovation management is one of the key areas of modern management science, emerging at the intersection of strategic management theory, the innovation economy, and institutional analysis. In the current context of globalization, digitalization, and the transition to a knowledge economy, innovation serves not only as a driver of economic growth but also as a defining element of the long-term competitiveness of nations and companies. In this context, strategic innovation management is viewed as a systematic process of formulating, implementing, and monitoring management decisions aimed at ensuring the sustainable development of innovation activities.

The theoretical foundations of strategic innovation management are based on the classical principles of strategic management, according to which organizations and institutions must set long-term goals, take the external environment into account, and effectively utilize internal resources. However, unlike traditional strategic management, innovation management is characterized by a high level of uncertainty, risk, and dynamism, which necessitates the use of flexible and adaptive management approaches.

One of the key characteristics of strategic innovation management is its focus on the creation and utilization of knowledge as the primary resource for development. In this context, knowledge serves not only as the result of innovative activity but also as its prerequisite. This necessitates the development of effective knowledge management mechanisms, the development of human capital, and the promotion of research and development activities. Technology transfer processes and the commercialization of research results also play a significant role, facilitating the transition from scientific developments to practical application.

Modern approaches to strategic innovation management involve viewing innovation as an open system that operates in interaction with the external environment. This means that the effectiveness of innovation depends not only on the internal resources of an organization or the state, but also on the ability to integrate external knowledge, technologies, and investments. In this context, the concept of open innovation takes on particular significance, as it involves active interaction among various actors in the innovation process, including enterprises, research institutions, government agencies, and international organizations.

An important element of the theoretical foundations of strategic innovation management is the institutional approach, which views innovation activity as the result of the interaction of various institutions – formal and informal rules, norms, and organizations. The institutional environment determines the conditions under which the innovation system operates, influences the motivation of participants in the innovation process, and shapes the mechanisms for coordinating their activities. In this context, the role of the state as an institutional regulator, which creates the legal, economic, and organizational conditions for the development of innovation, is of particular importance.

A systematic approach to strategic innovation management deserves special attention; under this approach, innovation activity is viewed as a complex, multi-level system comprising various elements and the relationships between them. This approach allows for the interdependence of various factors in innovation development to be taken into account and enables a comprehensive analysis of innovation processes. In particular, this approach identifies such key components of the innovation system as the research and development sector, the entrepreneurial environment, innovation infrastructure, and public policy.

Furthermore, strategic innovation management requires consideration of the global context in which national innovation systems operate. Globalization leads to increased competition among countries for innovation resources, talent, and investment, which, in turn, requires the development of effective strategies for managing innovation activities. In this context, a comparative analysis of various models of innovation development is important, as it allows for the identification of best practices and their adaptation to national conditions.

Equally important is the aspect of strategic flexibility, which involves the ability of innovation systems to adapt to changes in the external environment. In today's environment of rapid technological development and high uncertainty, the success of innovation largely depends on the ability to respond quickly to new challenges and opportunities. This requires the implementation of adaptive management mechanisms, the development of dynamic capabilities, and the use of modern strategic analysis tools.

The theoretical foundations of strategic innovation management are formed through the integration of various scientific approaches, including systemic, institutional, and resource-based approaches. Their combination enables a comprehensive understanding of the mechanisms underlying the functioning of innovation systems and lays the groundwork for developing effective strategies for managing innovation activities at both the organizational and national levels.

The concept of National Innovation Systems (NIS) is one of the key theoretical and methodological foundations for the study of innovation activity and strategic innovation management. It emerged in the late 20th century as a response to the need for a comprehensive understanding of the processes

of knowledge creation, dissemination, and utilization within national economies. In today's context, this concept serves as a fundamental tool for analyzing the effectiveness of innovation systems and developing strategies for their advancement.

The essence of the concept of National Innovation Systems lies in viewing innovation as the result of interaction among various institutions, including government agencies, enterprises, research institutions, universities, and financial institutions. This approach allows us to move away from a linear model of innovation, in which the innovation process is viewed as a sequential transition from scientific research to commercialization, and toward an interactive model that involves constant interaction among all participants in the innovation process.

Within the NIS framework, particular attention is paid to the role of the institutional environment, which defines the rules of interaction among innovation actors. Institutions create conditions for knowledge exchange, stimulate innovation activity, and ensure coordination among the various participants in the system. An important element of the institutional environment is the legal framework, particularly the intellectual property protection system, which creates incentives for investing in innovation.

One of the key characteristics of national innovation systems is their structural diversity, which is determined by the historical, economic, and social characteristics of individual countries' development. This means that there is no universal model of an innovation system that would be equally effective for all countries. Instead, each country develops its own model that corresponds to its institutional conditions, level of economic development, and strategic priorities.

In this context, it is important to understand the role of the state as a key element of the national innovation system. The state acts as a coordinator, regulator, and investor, ensuring the creation of a favorable environment for the development of innovation. It defines strategic directions for development, funds basic research, creates an innovation infrastructure, and supports collaboration among various actors in innovation.

At the same time, the effectiveness of the national innovation system depends to a large extent on the level of development of the private sector and its ability to generate and implement innovations. In today's environment, enterprises are the primary drivers of innovation, as they are the ones that commercialize new technologies and products. Small and medium-sized enterprises, startups, and venture capital firms also play a crucial role, ensuring the dynamism and flexibility of the innovation system.

Within the NIS concept, special attention is given to the role of universities and research institutions, which serve as sources of new knowledge and technologies. In modern innovation systems, universities increasingly perform not only educational and scientific functions but are also actively involved in the commercialization of research results, collaborating with business and the government. Such interaction forms the so-called "triangular model" or "knowledge triangle" (university – business – government), which is the foundation for the effective functioning of the innovation system.

In the current context of global economic development, the concept of national innovation systems is undergoing a certain transformation linked to the processes of internationalization and globalization of innovation activities. The role of transnational corporations, international research networks, and global innovation platforms is growing, leading to the formation of supranational and regional innovation systems. This, in turn, requires the adaptation of national innovation management strategies to the new conditions of global competition.

An important direction in the development of the NIS concept is its integration with strategic management approaches. This involves using strategic analysis tools to assess the effectiveness of the innovation system, identify its strengths and weaknesses, and develop long-term development strategies. In this context, the innovation system's ability to adapt and transform in response to changes in the external environment takes on particular significance.

The concept of national innovation systems serves as a fundamental basis for the study of strategic innovation management. It allows us to view innovation activity as a comprehensive process involving the interaction of various institutions and provides a methodological framework for the comparative analysis of innovation systems across different countries in a global context.

The Open Innovation model is one of the most influential contemporary approaches to the strategic management of innovation activities, significantly transforming traditional notions of the processes of knowledge creation and commercialization. Unlike the classical closed innovation model, in which organizations rely exclusively on internal resources, open innovation involves the active use of external sources of ideas, technologies, and competencies. This approach allows for a significant increase in the effectiveness of innovation activities, a reduction in research and development costs, and the acceleration of bringing new products and technologies to market.

The essence of the open innovation model lies in the formation of open innovation ecosystems, within which various actors – companies, universities, research institutions, startups, investors, and government agencies – interact. In such a system, knowledge circulates freely among participants, creating conditions for synergy and the generation of new ideas. An important feature of open innovation is the two-way nature of knowledge flows: organizations not only draw on external ideas but also transfer their own developments to other entities through licensing, partnerships, or the creation of spin-off companies.

A key element of open innovation is the development of partnerships and networked collaboration. In today's environment, no single organization possesses all the necessary resources to support the entire innovation cycle, which necessitates cooperation. This is particularly relevant for high-tech industries, where the complexity of technologies and the speed of their development require the combined efforts of various participants. In this context, strategic innovation management involves establishing effective mechanisms for cooperation, managing partnerships, and coordinating the activities of participants in the innovation ecosystem.

Universities and research institutions, which serve as sources of new knowledge and technologies, play a crucial role in implementing the open innovation model. In today's environment, they are actively integrating into the business environment by establishing joint research centers, technology parks, and innovation clusters. Such collaboration facilitates the effective commercialization of research outcomes and enhances the overall level of innovation activity.

The development of venture capital and the startup ecosystem is of particular importance in the open innovation model. Venture capitalists provide funding for innovative projects in their early stages, taking on high risks, which helps stimulate the development of new technologies. Startups, in turn, serve as important sources of innovation, as they are capable of quickly adapting to market changes and implementing new ideas. In this context, strategic innovation management involves creating favorable conditions for the development of entrepreneurship and supporting innovative initiatives.

At the same time, the implementation of the open innovation model is associated with a number of challenges and risks. One of the key issues is the protection of intellectual property, as the open exchange of knowledge can lead to a loss of competitive advantages. This requires the development of effective mechanisms for managing intellectual property rights, as well as building trust among participants in the innovation ecosystem. Furthermore, coordinating the activities of a large number of participants is crucial, which demands a high level of managerial competence.

From a strategic perspective, the open innovation model is transforming approaches to the development of innovation strategies at both the corporate and national levels. In particular, it involves a shift from isolated innovation processes to integrated ecosystems focused on collaboration and knowledge sharing. This, in turn, requires the development of appropriate infrastructure, including innovation clusters, technology parks, business incubators, and platforms for interaction among participants in the innovation process.

In the context of globalization, open innovation takes on an international dimension, as innovation processes increasingly extend beyond the boundaries of national economies. International cooperation in science and technology, technology transfer between countries, and participation in global innovation networks are becoming key factors in enhancing the competitiveness of national innovation systems. This requires governments to formulate strategies aimed at integrating into the global innovation landscape.

The open innovation model is a key element of modern strategic management of innovation systems. It enhances the effectiveness of innovation activities by integrating internal and external resources, developing partnerships, and fostering innovation ecosystems. Its application enables governments and companies to adapt to the conditions of global competition and ensure sustainable innovation development.

The role of the state in innovation systems is one of the key elements of modern strategic management of innovation activities. In the scientific literature, the state is viewed not only as a regulator of economic processes but also as an active participant in the innovation system, shaping strategic development priorities, providing institutional conditions for innovation, and acting as a catalyst for technological change. In the current context of globalization and growing competition for innovation resources, the importance of government management in the field of innovation is significantly increasing.

Traditionally, the state's role in the innovation system has been limited to creating a regulatory framework, ensuring macroeconomic stability, and supporting basic scientific infrastructure. However, modern approaches to strategic innovation management expand these functions to include the state's active participation in shaping innovation markets, funding research and development, and stimulating entrepreneurial activity. This transformation of the state's role is driven by the need to respond to the complexity and riskiness of innovation processes, which often require significant investment and are long-term in nature.

One of the key areas of state participation in the innovation system is the funding of research and development (R&D). The state serves as the primary source of funding for basic research, which involves a high degree of uncertainty and is not always attractive to the private sector. At the same time, state support for applied research and development contributes to the development of new technologies and their subsequent commercialization. In this context, mechanisms such as grant funding, government programs, tax incentives, and innovation funds are crucial.

Equally important is the state's role in shaping an institutional environment that ensures effective interaction among various actors in the innovation ecosystem. This includes the development of the legal system, particularly intellectual property protection, the creation of conditions for the functioning of the venture capital market, as well as support for innovation infrastructure. Institutional stability and the predictability of government policy are important factors influencing the investment attractiveness of the innovation sector.

In modern innovation systems, the state also plays the role of a coordinator, ensuring the coherence of actions among various participants in the innovation process. This is particularly important in the context of a complex, multi-level structure of the innovation system, where government agencies, businesses, research institutions, and civil society organizations interact. Effective coordination helps avoid duplication of functions, improves resource efficiency, and ensures the achievement of strategic development goals.

One of the modern approaches to understanding the state's role is the concept of the "entrepreneurial state," under which the state acts as an active investor and initiator of innovation. In this case, it not only creates conditions for the development of innovations but also directly participates in financing high-risk projects, supports new technological directions, and generates demand for innovations through government procurement. This approach is particularly relevant in high-tech sectors, where the private sector is often unwilling to take on significant risks.

An important tool for implementing state innovation policy is the public-private partnership (PPP), which allows for the combination of state and business resources and expertise. PPPs facilitate effective risk sharing, attract investment, and enhance the efficiency of implementing innovative projects. Within such a partnership, the state can act as a co-investor, regulator, and guarantor of stable conditions for project implementation.

In a global context, the state's role in innovation systems varies depending on the chosen governance model. In some countries (for example, the United States), the state provides a favorable environment for the development of private initiatives, while in others (particularly China), it plays a dominant role in defining strategic development directions and allocating resources. The European model is characterized by a high level of coordination and institutional interaction, while the Israeli model is characterized by active support for the startup ecosystem.

At the same time, excessive state intervention can have negative consequences for the development of the innovation system, in particular leading to a decrease in resource efficiency, bureaucratization of processes, and restrictions on competition. Therefore, an important task of strategic management is to ensure an optimal balance between government regulation and market mechanisms. It is this balance that determines the innovation system's ability to adapt, develop, and integrate into the global innovation landscape.

The state plays a multifaceted role in the strategic management of innovation systems, acting as a regulator, investor, coordinator, and catalyst for innovation. The effectiveness of its activities is determined by its ability to create a favorable institutional environment, ensure support for innovation processes, and strike a balance between government intervention and market mechanisms.

The U.S. innovation system is one of the most developed and effective in the world, which explains its significant influence on global technological and economic processes. Its success is largely determined by the characteristics of strategic management, which combines market mechanisms with targeted government support, ensuring a high level of adaptability, flexibility, and innovative activity.

One of the key characteristics of the American model is the decentralized nature of strategic management of innovation activities. Unlike centralized systems, where major decisions are made at the national level, in the U.S. a significant portion of management functions is concentrated at the level of individual organizations, corporations, universities, and regions. This approach fosters a competitive environment in which various actors in innovation have the opportunity to independently determine development strategies and adapt to changes in the external environment.

A key feature of the U.S. model is the dominant role of the private sector in financing and implementing innovation activities. A significant portion of investment in research and development is carried out by private companies, which stimulates the alignment of innovations with market needs and ensures high resource efficiency. At the same time, the government plays an important supporting role by funding basic research and creating favorable conditions for the development of innovative businesses.

The development of venture capital, which provides funding for innovative projects in their early stages, is of particular importance in the strategic management of the U.S. innovation system. Venture capital funds play a key role in supporting startups, which facilitates the rapid adoption of new technologies and the creation of innovative products. A well-developed venture capital infrastructure allows for the effective distribution of risks and the attraction of investment into high-tech industries.

Another important feature of the American model is the close interaction between universities, research institutions, and business. Universities serve not only as centers of education and science but also as active participants in the innovation process, ensuring the generation of new knowledge and its commercialization. Technology parks, incubators, and accelerators also play a significant role, contributing to the development of the innovation ecosystem.

An important element of strategic innovation management in the U.S. is an effective intellectual property protection system. It creates incentives for investing in research and development and

ensures the protection of innovation outcomes. The existence of clear legal mechanisms promotes the development of the technology market and increases trust among participants in the innovation process.

Within the American model, the government also actively uses tools to stimulate innovation, including tax incentives, grant programs, and government procurement. Federal agencies play a special role by funding scientific research and supporting the development of priority technology areas. At the same time, government support is predominantly selective in nature and aimed at creating conditions for the development of innovations, rather than directly managing them.

Competition plays a significant role in the functioning of the U.S. innovation system, stimulating increased efficiency and innovative activity. A competitive environment facilitates the rapid diffusion of new technologies, the development of entrepreneurship, and the formation of new markets. In this context, strategic innovation management involves creating conditions for fostering competition and supporting innovative initiatives.

In today's environment, the U.S. innovation system is actively integrating into the global innovation landscape. International cooperation in science and technology, participation in global innovation networks, and the attraction of foreign investment all contribute to enhancing its competitiveness. At the same time, globalization creates new challenges, including increased competition from other countries and the need to adapt to rapid technological changes.

The strategic management model of the U.S. innovation system is characterized by a combination of decentralized management, an active role for the private sector, effective government support, and a well-developed innovation infrastructure. It is precisely these factors that ensure its high effectiveness and allow the U.S. to remain one of the world leaders in innovation.

In today's globalized environment, the effectiveness of national innovation systems is largely determined not only by internal development factors but also by the ability to adapt to global trends and integrate into the global innovation landscape. In this context, a comparative analysis of various models of strategic management of innovation activities takes on particular significance, as it allows us to identify their key characteristics, strengths, and weaknesses, as well as to determine the factors influencing the effectiveness of innovation systems.

The U.S. model is traditionally regarded as one of the most flexible and market-oriented. Its main characteristic is the decentralized nature of management, which ensures a high level of adaptability and innovative activity. Compared to other models, the American system is characterized by a significant role of the private sector, a developed venture capital infrastructure, and an effective system for commercializing innovations. At the same time, government intervention is predominantly selective in nature and aimed at supporting basic research and creating a favorable institutional environment.

The European model of strategic management of innovation activities is distinguished by a higher level of coordination and institutional interaction. In European Union countries, national and supra-national institutions play a significant role in ensuring the coherence of innovation policy and the implementation of joint development programs. This approach promotes stability and predictability in innovation development, but it can reduce the system's flexibility and slow down the decision-making process.

The Chinese model of the innovation system is characterized by a high degree of centralization and an active role for the state in strategic management. The state identifies priority areas for development, provides large-scale funding for innovation projects, and controls key sectors of the economy. This approach enables the rapid mobilization of resources and the achievement of significant results in the short term. At the same time, excessive centralization can limit competition and reduce the effectiveness of innovation activities in the long term.

The Israeli model of the innovation system is an example of an effective combination of state support and entrepreneurial activity. It is characterized by a highly developed startup ecosystem, active

participation of venture capital, and significant integration into global innovation networks. The state plays a crucial role in creating favorable conditions for innovation, particularly through supporting startups, developing innovation infrastructure, and fostering international cooperation.

A comparative analysis of these models allows us to identify several key criteria for evaluating the strategic management of innovation systems. These include the level of government intervention, the nature of the institutional structure, mechanisms for funding research and development, the role of public-private partnerships, and the effectiveness of the intellectual property protection system. It is precisely these criteria that form the basis of the classification approach used in this study.

From the perspective of the level of government intervention, it can be stated that the U.S. model occupies an intermediate position between centralized and decentralized systems. It combines market mechanisms with targeted government support, ensuring a balance between flexibility and stability. The European model is characterized by a higher level of government regulation, while the Chinese model is characterized by state dominance in all key processes. The Israeli model, in turn, demonstrates an effective combination of government support and entrepreneurial initiative.

In terms of institutional structure, the U.S. model is characterized by a high degree of decentralization and autonomy among individual innovation actors. In the European Union, there is a more complex system of coordination between national and supranational institutions. The Chinese system is characterized by a rigid hierarchical structure, while the Israeli system is marked by flexibility and a high level of interaction among participants in the innovation ecosystem.

The mechanisms for financing innovation also differ significantly across models. In the United States, the private sector plays a significant role, providing the bulk of R&D investment. In the European Union and China, public funding dominates, while Israel exhibits an effective combination of public and private investment.

Thus, a comparative analysis shows that none of the models is universal, and their effectiveness depends on the ability to strike a balance between government regulation and market mechanisms. In this context, the U.S. model can be viewed as one of the most adaptive and flexible, allowing it to respond effectively to the challenges of the global economy and maintain its leadership position in the field of innovation.

The results of the comparative analysis provide a basis for further systematization of the characteristics of global models of strategic management of innovation systems.

In the current context of global economic development, innovation systems operate in an environment of high uncertainty, dynamic technological change, and intensified global competition. This necessitates the constant adaptation of strategic innovation management to new challenges arising from economic, technological, political, and social factors. The competitiveness of national economies and their positions in the global innovation landscape depend on the ability to effectively respond to these challenges.

One of the key strategic challenges is the acceleration of technological development, accompanied by rapid changes in technological paradigms. The emergence of new technologies, such as artificial intelligence, biotechnology, digital platforms, and quantum computing, is transforming the structure of the economy and requires innovation systems to demonstrate a high level of flexibility and adaptability. In this context, strategic management must ensure the timely identification of priority areas for development and the effective use of available resources.

Another important challenge is the globalization of innovation, which leads to increased competition among countries for access to knowledge, technologies, investments, and human capital. Transnational corporations, international research networks, and global innovation platforms are becoming key players in the global innovation market. This creates new opportunities for cooperation, but at the same time increases the risks of losing national competitive advantages.

Another significant challenge for innovation systems is the need to ensure effective collaboration among the various actors in the innovation process. In today's environment, innovations increasingly emerge at the intersection of different industries and fields of activity, which requires the development of interdisciplinary approaches and the integration of knowledge. This, in turn, requires improving the mechanisms for coordinating and managing innovation ecosystems.

Equally important is the challenge associated with the need to ensure sustainable development and address global issues such as climate change, energy security, and social inequality. In this context, innovation systems must focus not only on economic efficiency but also on achieving social and environmental goals. This requires the integration of sustainable development principles into strategic innovation management.

The digitalization of the economy also plays a significant role in shaping contemporary challenges, transforming traditional business models and creating new opportunities for innovation. Digital technologies enable rapid information exchange, the development of platform-based solutions, and the emergence of new markets. At the same time, they create new risks related to cybersecurity, data protection, and unequal access to technology.

In response to these challenges, innovation systems must develop new strategic approaches to management. One such approach is the development of dynamic capabilities that allow for rapid adaptation to changes in the external environment. This includes the ability to engage in continuous learning, implement innovations, and transform organizational structures.

The prospects for the development of innovation systems are linked to the further integration of national economies into global innovation networks. This entails active participation in international research projects, the development of technology transfer, and the attraction of foreign investment. In this context, it is important to formulate effective strategies for international cooperation that allow national interests to be aligned with global development trends.

The development of human capital as a key resource for innovation takes on particular significance. Education, science, and professional training must meet the modern demands of technological development and ensure the development of competencies necessary for working in a knowledge-based economy. Investment in human capital is an important prerequisite for long-term innovative development.

In the context of studying the U.S. model, it should be noted that its strategic advantages are linked precisely to its ability to respond effectively to these challenges. Flexibility, a decentralized management structure, a well-developed innovation infrastructure, and the active role of the private sector allow the U.S. to adapt to changes and maintain its leadership position in the field of innovation. At the same time, even this model faces new challenges that require continuous improvement of strategic management.

The strategic challenges of modern innovation system development necessitate a transition to more flexible, adaptive, and integrated management models. The prospects for the development of innovation systems are linked to the effective integration of government and market mechanisms, the development of innovation ecosystems, and active participation in the global innovation landscape.

The methodological foundation of this study is a combination of contemporary theoretical approaches to the strategic management of innovation systems, including concepts of national innovation systems, open innovation, and the role of the state as an active institutional actor. This interdisciplinary approach enables a comprehensive study of innovation activity as a multi-level management system.

A combination of general scientific and specialized methods was used in the study. In particular, a systems approach was applied, allowing innovation systems to be viewed as holistic structures with internal and external linkages. The comparative method was used to analyze the characteristics of strategic management of innovation systems in the United States, the European Union, China, and Israel.

The key methodological tool of the study is the classification approach to analyzing models of innovation management proposed by O. Likhota (Likhota, 2025). According to this approach, innovation systems are evaluated based on the following criteria:

- level of government intervention;
- institutional structure;
- R&D funding mechanisms;
- role of public-private partnerships;
- effectiveness of intellectual property protection.

The use of these criteria allows for the systematization of global models of innovation development and ensures their comparative analysis within a single methodological framework.

The analysis revealed that models of strategic management of innovation systems exhibit significant differences depending on the level of government intervention, the nature of institutional interaction, and the mechanisms for financing innovation activities.

To summarize the results, a comparative analysis of global models of strategic management of innovation systems was compiled (Table 1).

Table 1

Comparative analysis of global models of strategic management of innovation systems

Model	The nature of strategic management	Level of state intervention	Institutional structure	Mechanisms for funding R&D	The role of public-private partnerships	Key aspects of innovation management
USA	Decentralised strategic management	Moderate, predominantly selective	The significant role of the private sector, universities and venture capital	A combination of public funding for fundamental research and private investment	High	Flexibility, rapid commercialisation, and a focus on competition and the market
EU	Coordinated strategic management	Tall	Close cooperation between the state, universities and the business sector	The significant role of national and supranational programmes	High	Stability, regulatory consistency, focus on sustainable development
China	Centralised strategic management	Very high	The dominant role of the state and state-owned corporations	Predominantly state funding for priority sectors	Moderate	High concentration of resources, rapid mobilisation, strategic control
Israel	Entrepreneurial strategic management	Moderately high	Active collaboration between the state, start-ups, investors and global corporations	Government support for start-ups combined with private investment	High	Start-up ecosystem, high adaptability, international integration

Source: developed by the author based on the approach to classifying global models of state regulation of innovation proposed by O. Likhota (Likhota, 2025)

The analysis revealed that the U.S. model is characterized by decentralized strategic management, with market mechanisms playing a dominant role and the private sector playing a significant role. This structure ensures the system's flexibility, rapid adaptation to changes in the external environment, and effective commercialization of innovations.

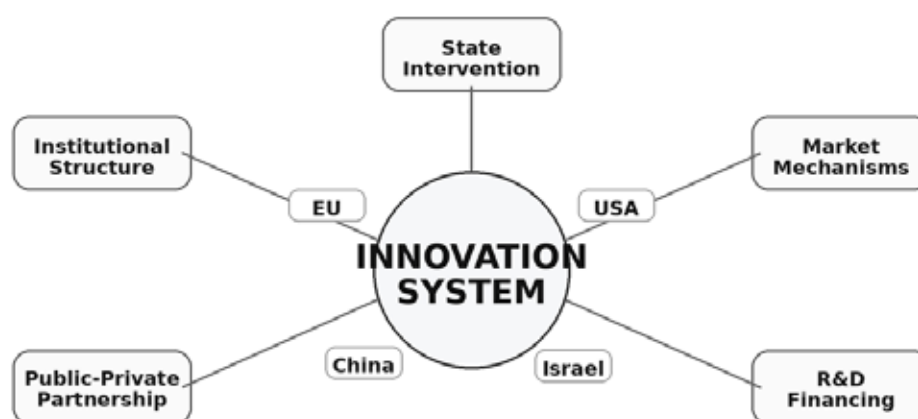
The European model, on the other hand, is based on a high level of coordination and a significant role for state and supranational institutions. This promotes stability and consistency in innovation policy, but may slow down decision-making.

The Chinese model demonstrates a high level of centralization and state control, which allows for the rapid mobilization of resources and the implementation of large-scale innovation projects. At the same time, such a system may limit the development of competition and entrepreneurial initiative.

The Israeli model is characterized by a high level of entrepreneurial activity, a developed startup ecosystem, and an effective combination of government support with private investment. This ensures a high level of innovation dynamics and integration into global markets.

To deepen the results of the comparative analysis, it is advisable to present a visualization of the positioning of global models of strategic management of innovation systems (see Diagram 1).

**Diagram 1. Framework of Global Innovation Management Models
Positioning of the United States, the European Union, China, and Israel**



Source: developed by the author based on Likhota's framework (Likhota, 2025)

The diagram presented illustrates the conceptual positioning of key models of strategic management of innovation systems – those of the United States, the European Union, China, and Israel – within a generalized analytical framework.

The graphical interpretation clearly demonstrates the differences between the models in terms of the level of government intervention and the degree of market orientation of innovation activities. Within this coordinate system, the U.S. model occupies an intermediate position, confirming its hybrid nature: on the one hand, it is based on market mechanisms and private-sector dominance, and on the other, it provides for strategic state support for key areas of development.

The European model is positioned closer to the zone of heightened institutional regulation, reflecting the significant role of state and supranational structures in coordinating innovation policy. The Chinese model demonstrates a high level of centralization, confirming the state's dominant role in shaping and implementing innovation strategy.

The Israeli model, in turn, is characterized by high dynamism and an entrepreneurial orientation, reflecting its focus on the development of the startup ecosystem and venture capital financing.

Thus, the visualization confirms the results of the comparative analysis and reinforces the conclusion that the effectiveness of innovation systems is determined not only by the level of state intervention but also by the ability to ensure a balance between institutional support and market mechanisms.

The results confirm that the effectiveness of innovation systems is determined not only by the volume of resources but also by the quality of strategic management. A key factor is the ability to strike a balance between government regulation and market mechanisms, as well as to ensure effective interaction among the main actors in innovation.

The U.S. model demonstrates one of the most effective approaches to strategic innovation management, as it combines the flexibility of a decentralized system with targeted government support. This ensures a high level of adaptability and innovation activity.

At the same time, the study's findings indicate that none of the existing models is universal. The effectiveness of an innovation system depends on its ability to adapt to national conditions, account for institutional characteristics, and respond to global challenges.

The application of a classification approach has made it possible to systematize various models of innovation management and identify their key characteristics. This creates a foundation for further research and the development of effective strategies for managing innovation systems.

Conclusions. As a result of this study, a comprehensive analysis of the strategic management of innovation systems was conducted within the context of global models of innovation management, with a focus on the specific features of the U.S. model. The findings allow us to formulate a number of general theoretical and practical conclusions.

First, it has been established that strategic management is a determining factor in the effectiveness of innovation systems. Innovation activity in modern conditions cannot be viewed as a spontaneous or purely market-driven process, but requires purposeful management that ensures the coordination of actions among the main actors – the state, business, and the scientific and educational sectors. It is the quality of strategic management that determines an innovation system's capacity for sustainable development and adaptation to global challenges.

Second, it has been demonstrated that modern approaches to innovation management are based on the integration of various theoretical concepts, including national innovation systems, open innovation, and the concept of the entrepreneurial state. Their combination allows for the formation of a comprehensive understanding of the mechanisms of innovation system functioning and ensures effective strategic management at the national level.

Third, the study found that the U.S. innovation system model is one of the most effective in the world due to its combination of decentralized management, an active role for the private sector, and targeted government support. This model ensures a high degree of flexibility, rapid commercialization of innovations, and efficient use of resources. Of particular importance are a developed innovation infrastructure, an effective venture capital system, and intellectual property protection.

Fourth, the results of a comparative analysis of global models for managing innovation activities indicate that there is no universal model that could be effective for all countries. The European model is characterized by a high level of coordination and stability, the Chinese model by centralization and rapid mobilization of resources, and the Israeli model by an entrepreneurial orientation and high innovation dynamics. In this context, the effectiveness of an innovation system is determined by its ability to strike a balance between government regulation and market mechanisms.

Fifth, applying a classificatory approach to the analysis of innovation management models has made it possible to systematize them according to key criteria, such as the level of government intervention, institutional structure, R&D funding mechanisms, the role of public-private partnerships, and the effectiveness of intellectual property protection. This creates an opportunity for a comprehensive comparative analysis of innovation systems and the formulation of well-founded management decisions.

Sixth, it has been established that modern innovation systems operate under conditions of significant strategic challenges, among which globalization, digitalization, the acceleration of technological development, and the need to ensure sustainable development are key. Accordingly, strategic innovation management should be aimed at increasing the adaptability of systems, developing dynamic capabilities, and integrating into global innovation networks.

Seventh, the study's findings have practical significance for the formulation of effective innovation policy. In particular, they can be used to improve national strategies for managing innova-

tion activities, develop innovation infrastructure, stimulate public-private partnerships, and enhance the efficiency of resource utilization.

The present study therefore confirms that strategic management is a key factor in the development of innovation systems within a global environment. Further research should focus on a more in-depth analysis of the mechanisms by which innovation systems adapt to contemporary challenges, as well as on the development of tools for assessing the effectiveness of strategic management of innovation activities.

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