## Annotation

In-depth study of innovative entrepreneurship is becoming a necessity at the current stage of development, as it provides an opportunity to develop a new strategy for the development of the state. A supporting measure decided to be the activation of innovative factors in promising sectors of the country's economy.

The topic of the dissertation is of practical importance for the countries increasing its innovative potential, in particular, for high-tech companies seeking to increase its efficiency against the backdrop of economic and political events, such as: the consequences of the economic downturn caused by the Covid-19 pandemic; the introduction of sanctions against Russia following the outbreak of hostilities; rising inflation, destabilization of macro- and microeconomic indicators. The implementation of initiatives at the micro level is carried out through the introduction of innovative management techniques and the search for personnel that contribute to the maximum adaptation of innovative approaches. The introduction of high-tech foundations into the entrepreneurial structure necessitates finding new effective strategic and tactical approaches in business management.

The work systematizes the methodological approaches of representatives of different schools of classics, neoclassicists, institutionalists, etc., as well as modern researchers in the field of high-tech entrepreneurship. Direct interaction of scientific and practical spheres could stimulate a rapid rise in the innovative development of Kazakhstan, as well as facilitate the implementation of open economy vectors.

The aim of the dissertation is to develop theoretical and methodological approaches and practical recommendations for improving the level of management of innovative entrepreneurship, as well as to develop a model for managing innovative entrepreneurship of a qualitatively higher level at the macro and micro levels. In accordance with the intended goal, the following main tasks are set:

1. To study the evolutionary changes and features of entrepreneurship management in the historical and logical connection with technological progress, which determine the need for new management methods.

2. To show the essence and content of new structures of business models, to explore new directions of development of concepts in innovative entrepreneurship.

3. To identify effective foreign methods of managing innovative entrepreneurship.

4. To analyze the indicators of innovative development and identify their impact on GDP based on panel regression. To study the institutional and economic environment and factors influencing development of innovative entrepreneurship in Kazakhstan. To give the author's definition of the concepts of institutional and economic environment.

5. To study the degree of transformation of business models in the context of digitalization and modern geopolitical risks based on content analysis and interviews with a representative of the business incubator.

6. To study the methods of managing the product life cycle in the innovative business ecosystem of Kazakhstan.

7. To develop a model of innovative entrepreneurship in Kazakhstan and priority areas for the development of innovative entrepreneurship management.

8. To identify promising areas for the development of PPPs applicable in Kazakhstani practice and to develop recommendations for improving PPP instruments in Kazakhstan.

9. To reveal the significance of the special model of behavior and competencies of an innovative entrepreneur.

The study of theoretical heritage, practical and statistical data, compliance with research methods allowed us to draw the following conclusions:

1) Among the features justifying the new theoretical and methodological approach to the management of innovative entrepreneurship: adaptation of the circular economy in world practice, transformation of management functions, emergence of new business models of innovative entrepreneurship, complication of technologies, development of open innovations. The study of evolutionary changes in historical and logical connection with technological progress showed that a qualitative economic leap arising in connection with a change in the technological structure or transformation of economic paradigms causes the need to search for improved methods of regulation and management of business processes. At the present stage, innovative entrepreneurship is based on high technologies, on those changes that occur at all levels of business development. Analysis of the evolution of scientific schools showed that each subsequent evolutionary stage occurs in the direction of qualitative improvement and is accompanied by the introduction of improved approaches leading to the emergence of innovation. Modern trends in economic development suggest the presence of creativity, environmental friendliness and high adaptability of innovative enterprise business models.

2) The business model in the context of digitalization and post-pandemic has acquired critical importance for business efficiency. The business model belongs to new directions of innovative entrepreneurship development concept. The search for an innovative business model and its further scalability has become the most important factor in business success. In the new type of economy, with the development of e-entrepreneurship, the business model has been transformed, its functionality is being improved by delegating most tasks to artificial intelligence, reducing the risk of the human factor. It is advisable for traditional companies implementing digital technologies at the enterprise to use the principles of startups organizational management to open new areas for development. Finding new growth points is a priority for owners of enterprises with a traditional business model in order to expand their business.

3) Examples of developed and newly industrialized countries demonstrate successful methods for introducing innovations for the purpose of environmentally friendly production and consumption. In our opinion, it is advisable to borrow methods for developing high-tech enterprises that do not contradict the national characteristics of economic development. For example, indirect support instruments contribute to the development of innovative entrepreneurship through tax incentives, investments in infrastructure development, attracting scientific personnel, without disturbing the balance in the structure of the business sector. Adaptation of the ecosystem approach, the essence of which is to create start-ups on the basis of a developed innovative infrastructure, would form a favorable ecosystem for business.

Also, from the experience of countries with a developed NIS, we can highlight: digitalization of the service sector, elaboration of the legislative framework, development of synergetic partnerships (government, business, development institutions and science), development of financial markets, adaptation of green economy principles. Targeted support for specific areas of innovative development, expressed in its financing, is a feature of the European NIS, which takes place in Kazakhstani practice. Analyzing the specific features of innovative entrepreneurship development in Kazakhstan, we came to the conclusion that the triple helix model with the adaptation of some approaches from other models will contribute most to stimulating the implementation of innovations and increasing the innovative activity of enterprises.

4) We consider the institutional and economic environment as a set of external factors that can have both a positive and negative impact on the development of innovative entrepreneurship. The concept of the institutional environment, in turn, is defined by us as a set of laws, unwritten rules, and relationships that stimulate or hinder the innovation process; the economic environment is a variety of agents that create external and internal factors that subsequently form the conditions for the economic behavior of innovative enterprises. The analysis and synthesis showed that at this stage the institutional and economic environment is not conducive to increasing the level of innovative activity of enterprises. In particular, the planned results in the first five-year period in the field of non-resource exports and growth of the manufacturing industry, as well as the second five-year period in terms of the value of exports and labor productivity were not demonstrated during the implementation of the State Program for Industrial and Innovative Development, designed to strengthen the manufacturing sector of the economy due to the growth of the innovative component. The study of the share of industries and the volume of investment in the extractive and manufacturing sectors showed that economic growth in Kazakhstan occurs due to the extraction of raw materials. Based on the analysis of the level of innovation activity, measuring the share of innovative products and the number of new enterprises, we came to the conclusion that despite the growth of registered legal entities, the production of innovative products remains at a low level of activity, which indicates a small number of high-tech organizations. Other restraining economic factors include: low R & D costs, a narrow industry structure with a predominance of the extractive industry, and a weak return on investment in the development of innovation. However, the result of the panel regression analysis showed that an increase in innovation indicators can have a positive effect on GDP growth. Among the indicators that affect GDP growth: an increase in the number of organizations with an Internet resource; an increase in the amount of working time spent on R & D; an increase in the cost of implementing innovations. In turn, GDP growth is stimulated by favorable conditions in the institutional and economic environment. Also, the results of the panel regression model, where the share of innovative products to GDP was chosen as the dependent variable, showed that an increase in the number of organizations (enterprises) that carried out R&D by 1 percent leads to an increase in the share of innovative products to GDP, and an increase in the total volume of innovative products (goods and

services) by 1 percent leads to an increase in the share of innovative products to GDP.

5) A study of the startup market based on an interview with a representative of a business incubator and a study of open sources showed that the trend in startup development is a focus on platform business models. This fact implies remote management of the organization using artificial intelligence, which is an advantage, since it allows processing large volumes of data and thereby significantly reduces costs. Among the problems in the development of startups, one can highlight the limited availability of business lending sources, as well as poor awareness of possible programs for financing innovative products. Attracting intellectual capital, in our opinion, should be a priority direction of development due to the high share of brain drain of highly qualified personnel. An analysis of the Kazakhstani market showed that the leaders are those companies that use innovative technologies, creating their own ecosystem and mastering automated tools for making reliable management decisions. A study of the Kazakhstani market showed that there is a partial adaptation of innovative business models in the form of creating platforms and marketplaces with various services. At the same time, the lack of awareness regarding market needs, the motivation of entrepreneurs to develop innovative business models and, as a result, low innovative activity are restraining factors for the use of innovative business models.

6) Research has shown that in Kazakhstani practice, the development of digital solutions in life cycle optimization begins with the introduction of a comprehensive information system, on the basis of which further automation of business processes occurs. Adaptation of innovative approaches in life cycle management occurs in small-scale projects, so expanding the scope of technologies application at different stages would increase the coverage of automated processes, which will increase the efficiency of the enterprise.

7) We consider the development of adaptive and flexible structures of the digital ecosystem to be a priority area for the development of innovative entrepreneurship, which would allow changing the trajectory of technological development in a short time in accordance with the challenges of the external environment, thereby facilitating the rapid implementation of innovative approaches. The considered negative aspects of external economic conditions, in addition to creating unfavorable factors for entrepreneurial activity, also reduce the motivation to develop innovative business opportunities. Assistance to the improvement of micro- and macroeconomic indicators by the state is a priority both for improving the institutional and economic environment of business and for raising the general spirit of entrepreneurs. Among other measures in the development of high-tech business, we highlighted: increasing the efficiency of funds invested in innovation, expanding the instruments of venture investment and the financial market, improving the corporate culture of the population, and automating the final stage of the innovation life cycle. We believe that combining elements of different models of innovative development (the Euro-Atlantic model, the East Asian model, the alternative model, the triple helix model) into one common structure is an effective measure to overcome the above-mentioned problems. In our opinion, the

structural model of the triple helix could form the basis for innovation development in the country. The triple helix model implies close interaction between the state, business and research institutes, which allows implementing large innovative projects. From the Euro-Atlantic model of innovation development, we would suggest borrowing the experience of promoting regional projects in the field of innovative activity, as well as the creation of a cluster model of an industry sector and independent areas for regulating innovative development; from the East Asian model - positive experience in developing commercialization centers; from the alternative model - innovative management of individual industries. Thus, the proposed model is an integration of macro- and micro-level agents. Further, at the macro level, ecosystem agents are united into clusters to regulate various areas of innovation development. At the micro level, the ecosystem management approach using innovative business models and innovation management tools contributes to the creation of a high-tech product. Indirect support tools, in our opinion, through the provision of tax incentives, investments in infrastructure development, would create basic conditions for the adaptation and transfer of technologies, as well as management methods of individual entrepreneurs to create a structural model of the NIS. The state in the proposed model does not limit business, but creates favorable conditions for it and other ecosystem objects for effective public administration: development of the financial market, overcoming the low level of digitalization, stabilization of the country's macroeconomic indicators, development of legal norms, simplification of procedures for the implementation of innovative projects, regulation of the information and educational centers activities, increasing the protection of intellectual property.

8) In foreign practice, such an institutional form as PPP has become widespread. The essence of this partnership is the creation of a joint venture with the participation of the private and public sectors. The advantage is access to an expanded resource base, as well as a various negative external factors risk reduction, due to the guarantor in the person of the state. In Kazakhstan, the use of concession agreements within the PPP is practiced, and some elements of the institutional form of PPP are being mastered, however, for the implementation of capital-intensive, high-tech projects, it is advisable to expand the toolkit of interaction between partners using the institutional form of PPP and adapting the positive experience of using special programs and creating project companies.

9) Technological transformation of the national economy necessitates changes in the management mechanisms of business processes to move to a new qualitative level of entrepreneurship. As a result, the relevance of defining the behavior model of an innovative entrepreneur increases. It is the behavioral and competence models that are a set of the system of management decisions elements that affect the efficiency of business management. Thus, as a result of studying theoretical and practical sources, we propose the following model of an entrepreneur of the new era: a person who is simultaneously a researcher, experimenter and extrovert, an empath, possessing an innovative spirit, open to any experience (including negative) and having a positive attitude towards risk. In addition to personal characteristics, an

entrepreneur of the new era must have social, professional, innovative and digital competencies to overcome the challenges of global transformation.