

## Public-Private Partnership in Conditions of Innovative Development of the Republic of Kazakhstan

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**Abstract.** *The relevance of the subject matter is conditioned by the fact that the innovative development of the Republic of Kazakhstan, which is based on the introduction of technological advances, the use of computer and resource-saving technologies, industrial and innovative achievements, is currently of great importance for the country's economy. The paper aims to prepare recommendations for the development of public-private partnerships (PPP) in the conditions of innovative development of the Republic of Kazakhstan. The leading methods of researching the issues of the paper include the analysis of theoretical sources, analysis of statistics, and comparison. The analysis of statistical indicators plays a crucial role in the study since data on the innovation level on the development of PPP can be directly obtained from statistical databases. The research results showed that for the development of projects that are carried out on an innovative basis, cooperation between the state and business is necessary. Certain risks and consequences are inherent in innovative projects. Therefore, such projects require private partners who agree to PPP even under unstable political, economic and social conditions and also have corresponding production and innovative potential. Given the improvement of the regulatory framework at the national and regional levels, increasing the attractiveness of such cooperation, and providing comprehensive support for such projects, a partnership between the state and business in the innovation sector will develop. The scientific novelty of the research is determined by the fact that the method of analysis of statistical indicators was used for the first time to analyse the concept of PPP in the context of the innovative development of the Republic of Kazakhstan. The observations of the paper have practical value for the development of PPP in the conditions of innovative development of the Republic of Kazakhstan.*

**Keywords:** *business, government, innovation, partnership, projects, financing*

**Raktažodžiai:** *verslas, vyriausybė, inovacijos, partnerystė, projektai, finansai*

### Introduction

The innovative development of the global economy, primarily the economies of developed countries, has recently been accelerating. Globalisation processes in the research and development sector generate breakthrough innovations and contribute to their accelerated commercialisation and diffusion. As a result, they also significantly affect the organisational and economic mechanism of large infrastructure investment projects carried out through innovative public-private partnerships (PPP). In many countries, the urgent task is to reduce the burden on budgets upon the implementation of innovative infrastructure upgrade projects in significant industries through new forms of cooperation with business. The increased interest in PPP is explained by the fact that under the conditions of partnerships, new effective financing models appear that are carried out in accordance with the criteria for the efficiency of redistribution of powers of state property, and more advanced management methods are used.

One of the first examples of public-private partnerships in the United States was the Philadelphia American Philosophical Society, founded in 1742 by Benjamin Franklin, which supported universities and the first medical schools to make science and medicine accessible to residents. In Europe, this interaction began during the Industrial Revolution (Wojewnik-Filipkowska

and Węgrzyn, 2019). The term “public-private partnership” is widely used in both foreign and Kazakh theory and practice as a generalised concept denoting the entire spectrum of relations between the state and business. The main objective of cooperation between the state and business is the creation of a new facility (or renovation of an existing facility) to provide public services or to improve the quality of public services provided by the state (public) authorities and private companies that combine their experience, assets, and other resources; public and private partners identify and share potential risks and revenues (income) from users of public services (Mazzola et al., 2019). The economic effect for society from partnerships between the state and the private sector is that it receives better public goods and services upon reducing costs. The partnership contributes to the development of market relations, private initiative and private entrepreneurship (Duzelbaeva et al., 2018). In world practice, in recent years, the number of PPP projects has been gradually growing, the legal framework is being strengthened, and the industry is expanding. In Europe in 2018, the total cost of implemented PPP projects amounted to 14.6 billion euros. The most ambitious projects include Canakkale Bridge and Ankara-Niğde Highway in Turkey; Gironde Broadband Network in France; the Blankenburg tunnel in the Netherlands. The paramount cooperation between the state and business in Europe takes place in the transport sector.

The theoretical significance of the article lies in the study of the essential and substantial features of the development of PPP in the conditions of innovative development of the Republic of Kazakhstan. The practical significance of the paper lies in proposing directions for the development of PPP in the context of the innovative development of the Republic of Kazakhstan. The main research objectives are: 1) to determine the concept of PPP; 2) to consider the methods, mechanisms and stages of development of PPP in the Republic of Kazakhstan; 3) to analyse the conditions of innovative development of the Republic of Kazakhstan; 4) to identify the issues of PPP and develop their solutions. The purpose of the paper is to prepare recommendations for the development of PPP in the conditions of innovative development of the Republic of Kazakhstan.

The main contribution of this study is that the article defines tools for implementing PPP that complement existing initiatives in this direction and is aimed at increasing the effectiveness of interaction between the private and public sectors of the Kazakhstani economy. The structure of the work is determined by the logic of presentation and consistently reveals the designated goal and objectives of the study.

## Literature Review

The theoretical basis of the paper comprises fundamental developments on the subject matter, which were presented in the works of Kazakh and foreign authors. Currently, great importance is attached to the modernisation of the economy and innovative development in Kazakhstan in order to create a more efficient and competitive national economic system in the world market. Modernisation of the economy requires interaction between the state and the private sector, which is based on the use of a new model of state regulation, in which the state creates conditions and incentives for business development through partnership, and at the same time fulfils its conventional obligations (Palaco et al., 2019). PPP are agreements between the state and business regarding the production and rendering of infrastructure services. J. Fleta-Asín and F. Muñoz (2020) believe that public-private partnerships are a complex process, often driven by conflicting aspirations of the state and business in the process of implementing public-private partnership projects. According to T. Väililä (2020), a public-private partnership is an effective alliance (interaction) between the state and business. Public-private partnerships are legal relations between the state and business in relation to projects of public-state importance, providing for risk mutualisation, consideration of interests and coordination of efforts of the parties (Spraul and Thaler, 2020).

According to N.Z. Uzalina (2017), the development issues of public-private partnerships in Kazakhstan are: imperfect legislation relating to partnerships between the state and business, insufficient experience in the field of such cooperation, lack of a base of successful practices, lack of experienced specialists in public administration who are able to structure and accompany public-

private partnership projects professionally. According to A.Zh. Panzabekova and G.M. Andreeva (2017), the revitalisation of state development institutions with a clearer focus on achieving the goals of industrial modernisation will facilitate a system of accelerated innovation and technological development of the economy based on public-private partnerships; for the development of high-tech production and clusters, it is necessary to form large vertically integrated companies with the participation of state assets. In the opinion of D.A. Yeshimova, E.A. Amanbaev and A.K. Kapysheva (2017), the role of the institutional development of the project management of public-private partnership should be strengthened at the expense of organisations responsible for managing the development of such cooperation, “think tanks” with unique experience and qualified staff. International experience should be applied in the implementation of the mechanism of public-private partnership, namely: various foreign methodological manuals, instructions, recommendations. M.B. Dzhumagalieva and A.O. Sultanbekova (2018) consider that it is especially important to apply schemes of cooperation between the state and business in education. This will promote the development of the facilities and resources of educational institutions, introducing new models of an integrated educational park, and increasing competitiveness in the educational market.

At present, PPP in the field of innovation in Kazakhstan is based on the Constitution of the Republic of Kazakhstan, and are being developed in accordance with the Civil Code and the Law on Public-Private Partnerships. The main player in venture funding for R&D is JSC “National Agency for Technological Development” (Fadyushin, 2019). Ways to implement PPP in Kazakhstan include: PPP contracts (service contracts, trust management or property leasing, life cycle contracts, other contracts), institutional PPP. Forms of project participation include trust management; service contract; equipment supply and maintenance; leasing, construction, repair and reconstruction. The terms of PPP projects in Kazakhstan range from 5 to 30 years, the earning capacity is 10-25%. Methods of project funding include private partner funds (equity capital, assets), state partner funds (financing, Damu Fund, Development Bank of Kazakhstan, equity capital upon creation), financial institutions (loans from second-tier banks, bonds, loans from microfinance organisations).

### **Materials and Methods**

The main methods of analysis of PPP in the conditions of innovative development of the Republic of Kazakhstan are the analysis of statistical indicators and the case study method. In Kazakhstan, the Statistics Committee of the Ministry of National Economy of Kazakhstan is a service that is responsible for the collection and open-source publication of statistical data on the development of PPP and on innovative development. As the empirical base of the study for the analysis of PPP in the conditions of innovative development of the Republic of Kazakhstan, the author selected the following indicators: share of enterprises with innovations in the total volume of enterprises in Kazakhstan; the number of enterprises with innovations in Kazakhstan; costs of innovation in Kazakhstan; the place of Kazakhstan in the ranking of countries in terms of innovation; the number of companies with state participation in Kazakhstan; the number of PPP projects in Kazakhstan; the cost of PPP projects in Kazakhstan; the composition of PPP projects in Kazakhstan. At the same time, to calculate some indicators, it is necessary to study data for several years, while other indicators must be compared with those of other countries. The case study method enabled to conduct an in-depth exploration of PPP phenomena within the innovative development of the Republic of Kazakhstan.

The study of the subject matter was carried out in three stages:

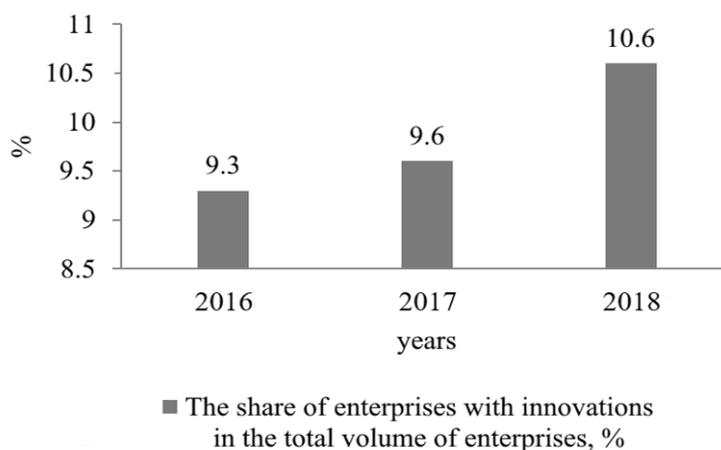
- at the first stage, a theoretical analysis of the existing methodological approaches to the analysis of the state of PPP in the conditions of innovative development of the Republic of Kazakhstan was carried out, and statistical indicators were selected for analysis;
- at the second stage, the selected indicators were studied in real-time, individual indicators were compared with those of other countries;

- at the third stage, generalising conclusions were made regarding the state of PPP in the conditions of the innovative development of the Republic of Kazakhstan and proposals were made to improve the situation.

## Results

The implementation of the first PPP projects in Kazakhstan started in 2006. In 2008, the JSC “Kazakhstan Public-Private Partnership Centre” was established, the sole shareholder of the Ministry of National Economy of the Republic of Kazakhstan. The centre sees its mission in creating conditions for partnership between the state and business, developing and uniting their potential for implementing joint projects of the state and business and increasing the volume of private investment in the country’s economy. The main objectives of the company are: conducting research and making recommendations in the field of PPP, examining and evaluating PPP projects, training and professional development of specialists in the field of PPP, methodological and consulting support for public and private organisations, maintenance of a database for PPP projects, information support for investors. In 2015, the Law “On Public-Private Partnership” was adopted, which is aimed at creating a vast arsenal of government support measures for investors within the country, including foreign ones. In 2016, sub-legislative acts and rules for the application of this law were adopted.

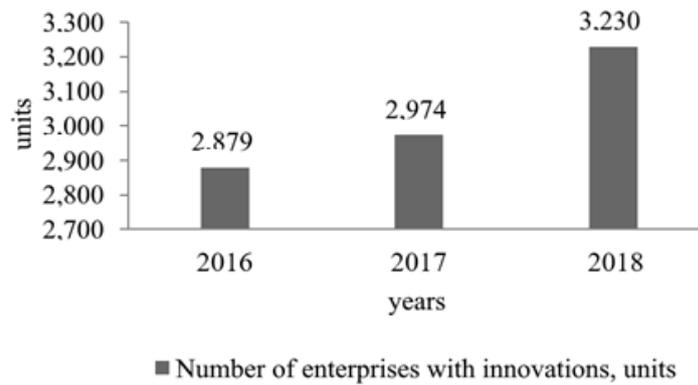
In Kazakhstan, entrepreneurship development is one of the priority directions of the state economic policy, and the government is striving to form a middle class and competitive dynamic business community focused on creating new high-tech industries with the most significant added value. Firstly, it is necessary to consider the indicators of innovative development of Kazakhstan in 2016-2018. Change in the share of enterprises with innovations in the total volume of enterprises in Kazakhstan in 2016-2018 is presented in Figure 1.



**Figure 1. Change in the share of enterprises with innovations in the total volume of enterprises in Kazakhstan in 2016-2018, %**

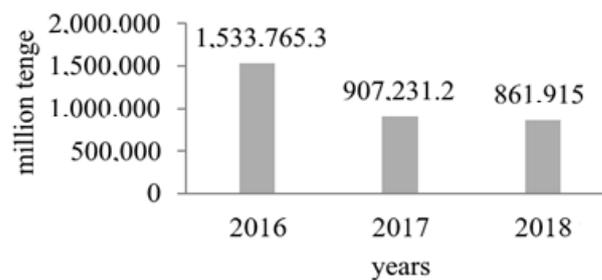
*Source: Authors.*

The share of enterprises with innovations in the total volume of enterprises in Kazakhstan for 2016-2018 grew annually, which is a positive tendency. The dynamics of the number of enterprises with innovations in Kazakhstan in 2016-2018 is presented in Figure 2.



*Figure 2. Dynamics of the number of enterprises with innovations in Kazakhstan in 2016-2018, units*  
*Source: Authors.*

The number of enterprises with innovations in Kazakhstan for 2016-2018 also increased annually and by the end of 2018 reached 3.230 enterprises. The development of innovative processes in Kazakhstan is not so much the result of the influence of market mechanisms but rather the ongoing targeted state policy. At the moment, in Kazakhstan, the innovative activity of enterprises in the real sector as a whole remains very low. The state resorts to certain investment investments to create conditions for the functioning of innovative enterprises. In turn, the dynamics of innovation costs in Kazakhstan is presented in Figure 3.



*Figure 3. Dynamics of innovation costs in Kazakhstan in 2016-2018, million tenge*  
*Source: Authors.*

So, innovation costs in Kazakhstan have been declining in recent years. In 2017, relative to 2016, the decrease amounted to 626.534 million tenge, and in 2018 relative to 2017, the decrease was 45.316.2 million tenge. Insufficiency of investments in innovative activity could not but affect the number of organisations performing research and development, and personnel engaged in research and development. Kazakhstan does poorly on innovation, business sophistication, and financial market development. The place of Kazakhstan in the ranking of countries for innovative development is presented in Table 1.

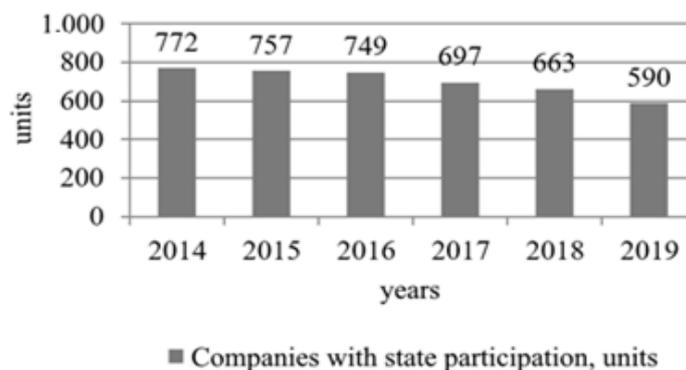
*Table 1. Kazakhstan's place in the ranking of countries by innovation level in 2013, 2018, 2019*

INDICATORS	2013	2018	2019
Kazakhstan's place in the ranking	84	74	79
Kazakhstan score	32.7	31.4	31
Leader country	Switzerland	Switzerland	Switzerland
Leader's score	66.6	68.4	67.2

*Source: Authors.*

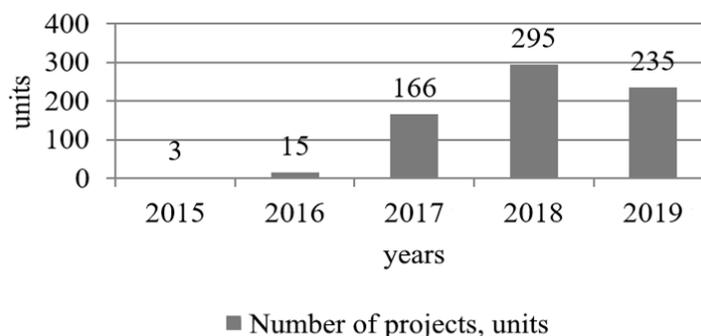
In 2019, Kazakhstan's position relative to 2013 has worsened, and in 2018 it has improved in terms of innovation in the global ranking. In Switzerland, the indicators of innovative development are 2 times higher than in Kazakhstan. Kazakhstan belongs to the countries with average incomes and

has a sustainable industrial and raw materials orientation. That is, despite the increase in the number and share of enterprises with innovations in Kazakhstan, the country is significantly behind in innovative development compared to many countries of the world (Argentina, Belarus, Russia, Georgia, Ukraine, etc.). In this connection, it is necessary to develop the innovative sector in the country, including through one of the effective tools for creating an innovative economy – PPP, the development of which is analysed below. The dynamics of companies with state participation in Kazakhstan for 2014-2019 will be presented in Figure 4.



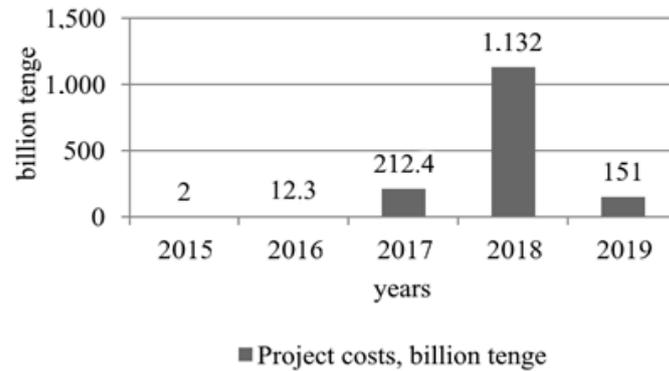
**Figure 4. Dynamics of companies with state participation in Kazakhstan for 2014-2019, units**  
Source: Authors.

By the beginning of 2020, 590 state-owned companies were operating in Kazakhstan, which is 11% less than in 2018. This reduction is maximum for the analysed period and has been observed since 2015. Since this period, the number of companies has decreased by 182 companies. The dynamics of the number of PPP projects in Kazakhstan for 2015-2019 is presented in Figure 5.



**Figure 5. Dynamics of the number of public-private partnership projects in Kazakhstan for 2015-2019, units**  
Source: Authors.

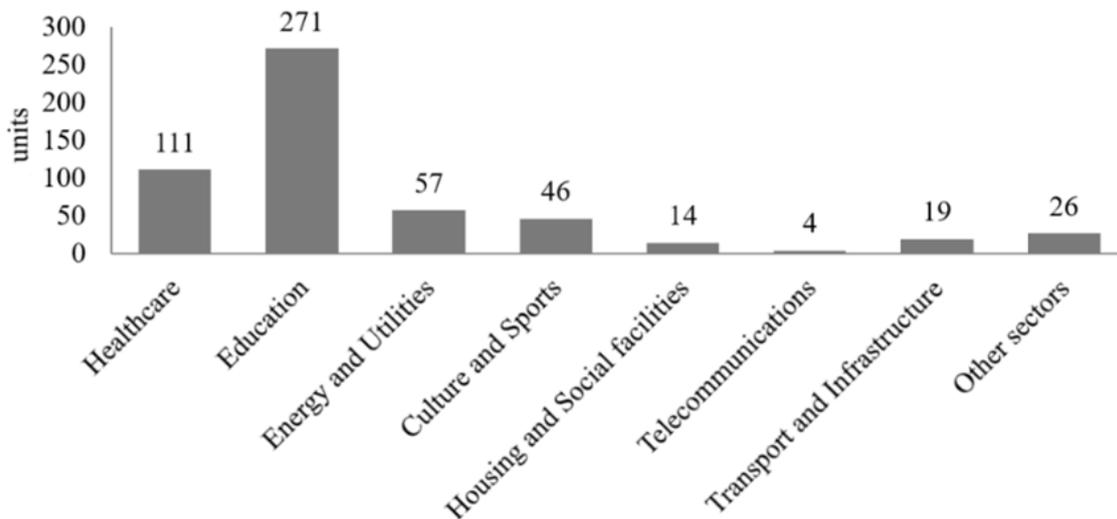
During 2015-2018 the number of PPP projects in Kazakhstan grew annually. In 2019, in Kazakhstan, using the practice of PPP, 235 new projects were concluded, which is 60 contracts lower than the 2018 indicator. The largest number of companies with state participation is concentrated in Nur-Sultan, also among the main regions of operation of such enterprises are the cities of Almaty, Karaganda, and the regions of Almaty and Turkestan. The dynamics of the amount for PPP projects in Kazakhstan is presented in Figure 6.



**Figure 6. Dynamics of the cost of public-private partnership projects in Kazakhstan for 2015-2019, billion tenge**

Source: Authors.

In 2019, there was a decrease both in the number of PPP projects and in the amount of concluded contracts. The number of projects decreased over the year by 9.811 billion tenge, while in 2018, there was an increase of 919.6 billion tenge. The main share of projects falls on projects at the local level (98%), which is explained by the fact that such projects are socially oriented and comprise a relatively low project cost. The main share of PPP projects is made up of projects that receive full cost recovery from budgetary funds. The composition of regional PPP projects in Kazakhstan, as of May 2019, is presented in Figure 7.



**Figure 7. The composition of regional public-private partnership projects in Kazakhstan as of May 2019, units**

Source: Authors.

In terms of the sectoral structure of regional projects of PPP, most of them are educational projects and a small number of projects – in the field of telecommunications. Thus, the development of PPP by industries in Kazakhstan is uneven. In general, the use of PPP mechanisms in Kazakhstan is carried out in all sectors of the economy, with the exception of facilities, the list of which is determined by the Government of the Republic of Kazakhstan. Various measures are being taken in this respect. The “one window” principle has been introduced for working with investors on PPP projects; information and consulting support is being carried out for projects; legislation is being clarified in the field of cooperation between the state and business; a database of potential investors and projects is being maintained. JSC “Kazakhstan Public-Private Partnership Centre” conducts field and stationary seminars on various issues of PPP for employees of state bodies, national and private companies. Authorities are also working on incorporating the experience of leading world centres of

PPP and updating the regulatory framework based on modern and promising areas of development of the theory and practice of PPP.

### **Discussions**

Different authors express diverse opinions regarding the development of PPP in the conditions of innovative development of the Republic of Kazakhstan. The development of public-private partnerships in the country is hampered by the presence of numerous and burdensome approvals at each stage of cooperation (Carbonara and Pellegrino, 2020). According to Z.A. Bolatkhanova and E.K. Syzdykova (2017), the lack of the necessary collateral upon loaning from Kazakh investors to take part in public-private partnership projects hinders the development of public-private partnerships. M. Kanatuly (2017) believes that the state and business do not consider cooperation attractive because of the length and complexity of the planning and preparation of projects. N.S. Daribekova (2019) believes that it is necessary to reorient public procurement to public-private partnership mechanisms. O.I. Belyaeva and M.M. Mukushev (2019) believe that it is necessary to conduct a final assessment of the impact of public-private partnership projects, to distinguish between monitoring and evaluation mechanisms for project implementation in accordance with internationally recognised approaches. According to Z.K. Smagulova and A.R. Soltangazinova (2019) it is important that the legislative framework for public-private partnerships is complete, transparent, consistent and of high quality.

According to the author, for the successful functioning of PPP in Kazakhstan, there are several obstacles: political and socio-economic instability in the country, the need for significant material resources for the implementation of innovative projects, financial risks for the private sector. PPP should not be focused exclusively on minimising risks for the public sector. Therefore, special attention should be paid to public control in the field of PPP as a means of ensuring lawfulness in the activities of public authorities and local governments. Public authorities should facilitate public involvement in monitoring the implementation of PPP projects. An important direction in the development of PPP is the implementation of a set of socio-economic reforms, improvement of competitiveness, creation of open competition, a favourable investment climate and improvement of the level of investment attractiveness of private companies.

As for the country's innovative development, measures to stimulate PPP in the innovation sector include the creation of JSC "National Institute for Technological Assistance", thanks to which venture funds are created in Kazakhstan, the creation of JSC "KazAgroInnovation", JSC "Science Fund", JSC "Centre for Engineering and Technology Transfer", which form the institutional infrastructure for the development of innovation in Kazakhstan. Of the contracts concluded under PPP in Kazakhstan, projects have already been commissioned such as the "Shar-Ust-Kamenogorsk" railway line, the "North Kazakhstan-Aktobe region" interregional electric transmission line, the "Nur-Zholy" vehicle entry point and transport logistics centre on the "Almaty-Khorgos" highway section of the "Western Europe-Western China" international transit corridor, an information system for electronic data processing in air-freight operations (eFreight), etc., was introduced.

Thus, there are resources and opportunities for the innovative development of the Republic of Kazakhstan due to the improvement of the PPP system in the near future. This requires the active participation of state, regional, and municipal authorities in the design and implementation of effective mechanisms for the advancement of such cooperation. Currently, part of government measures can be considered effective, since the country has seen an increase in certain indicators of development of cooperation between the state and business, but these measures are insufficient because Kazakhstan lags behind many countries of the world in innovative development.

### **Conclusion**

1. For 2016-2018 a decrease in innovation costs was observed in Kazakhstan. Thus, Kazakhstan's position in the world ranking by the level of innovation worsened in 2019. The number

of companies with state participation in Kazakhstan for 2014-2019 was reducing and decreasing. Also, it can be noted that the development of public-private partnerships across sectors in Kazakhstan is uneven – most projects are implemented in the field of education and healthcare; the remaining sectors are significantly behind. Nevertheless, positive tendencies are the increase in the share of enterprises with innovations in the total volume of enterprises and an increase in the number of enterprises with innovations in Kazakhstan for 2016-2018.

2. Thus, it is necessary to introduce a set of organisational, economic, informational, financial, legal and institutional changes, including the need to train personnel for management, evaluation, preparation of projects at the regional and local levels to improve the system of PPP in the conditions of innovative development of the Republic of Kazakhstan. It is also recommended to conduct transparent, competitive procedures with the involvement of public observers and provide free access to information support of public-private cooperation.

3. Summing up, it should be noted that the most promising direction for further research on the subject matter is to study the experience of developed countries, which will help to decide what mechanisms should be applied in Kazakhstan for the development of improved management of cooperation between the state and business in the conditions of innovative development of the Republic of Kazakhstan.

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Zarina B. Sadykova

## Viešojo ir privataus sektoriaus partnerystė vardan inovacijų vystymo Kazachstano Respublikoje

*Anotacija*

Temos aktualumą lemia tai, kad Kazachstano Respublikos inovacijų plėtra, pagrįsta technologinės pažangos įdiegimu, kompiuterių ir išteklių taupymo technologijų naudojimu, pramonės ir novatoriškais pasiekimais. Ji daro reikšmingą poveikį šalies ekonomikai. Šio straipsnio tikslas – parengti rekomendacijas, kaip plėtoti viešojo ir privataus sektoriaus partnerystę (VPSP) plėtojant inovacijas Kazachstano Respublikoje. Pagrindiniai darbo problemos tyrimo metodai apima teorinių šaltinių analizę ir statistinių rodiklių analizę. Statistinių rodiklių analizė atlieka labai svarbų vaidmenį tyrime, nes duomenis apie inovacijų lygį ir VPSP plėtrą galima tiesiogiai gauti iš statistinių duomenų bazių. Tyrimo rezultatai parodė, kad kuriant projektus, kurie kuria ir diegia inovacijas, būtinas valstybės ir verslo bendradarbiavimas. Inovatyviems projektams būdingas aukštesnis rizikos lygis. Todėl tokiems projektams reikalingi privatūs partneriai, kurie gali jungtis į VPSP net esant nestabilioms politinėms, ekonominėms ir socialinėms sąlygoms, taip pat turi atitinkamą gamybos ir inovacijų potencialą. Atsižvelgiant į reguliavimo sistemos tobulinimą nacionaliniu lygmeniu ir regionuose, didinant tokio bendradarbiavimo patrauklumą ir teikiant visapusišką paramą tokiems projektams, vystysis valstybės ir verslo inovacijų sektoriuje partnerystė. Mokslinį tyrimo naujumą lemia tai, kad statistinių rodiklių analizės metodas pirmą kartą buvo naudojamas analizuojant VPSP sąvoką Kazachstano Respublikos novatoriškos raidos kontekste. Tyrimo rezultatai turi praktinę naudą kuriant inovacijų plėtrą Kazachstano Respublikoje.

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