

FEATURES OF PUBLIC-PRIVATE PARTNERSHIP AS A MEANS OF REGULATING THE DEVELOPMENT OF THE SOCIAL SPHERE OF INNOVATIVE ECOSYSTEMS

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ABSTRACT

The purpose of the publication is representing the theoretical positions, methodical approaches and the scientific and practical recommendations concerning the improvement of the mechanism of regulation of public-private partnership (PPP) in the social sphere at the macro- and mesoeconomic levels of Ukraine's economy.

The theoretical basis of regulation of PPP in the social sphere of the national economy (SSNE) is disclosed, the essence of which is defined as an effective model of the project association of financial and organizational resources of stakeholders for the purpose of satisfying the expanded range of social needs of the population and improvement the level of their satisfaction by increasing the production of goods and providing the social services as a material condition of the reproduction of the ability of each individual for a long time to act as a creative element of innovative systems, flexible consideration of the peculiarities of the functioning of the humanitarian service sector of the post-industrial knowledge economy. The methodical approaches to the modernization of the mechanism of regulation of PPP in the SSNE and its implementation into the process of self-organization and self-governance of regional innovation ecosystems (RIES) are developed, which consists in enriching the spectrum and improving the quality level of satisfying the social and vital needs of the material carriers of human capital by the increasing the personal potential of the increasing the level of productivity, labor mobility, and life-time value on the basis of forming the regulatory framework for the regulation of social needs.

Keywords: public-private partnership, mechanism of regulation, social sphere, effectiveness, innovative ecosystems.

INTRODUCTION

In modern economic literature a wide range of definitions of the nature of the PPP is used. At the same time, there is no generally accepted unambiguous definition of the concept. The presence of various perspectives and the lack of clarity in the understanding of the PPP category, both at the international level and in countries where this form of interaction between the state and business is actively evolving, testifies to the need for further development of theoretical and empirical research in this area, especially in the context of the formation of multi-level innovation social ecosystems of the national economy in the conditions of development of its post-industrial stage. In different countries, the name of the partnership between the state and business has its own definition. In the UK, the term "private financial initiative" (PFI, PFII) is used. The alternatives are used in the United States, Canada (PPP, P3), Australia – P-P partnership, France – the "mixed economy community" (SEM). Similar definitions are common in other European practices (Spain – Colaboración público-privada/Asociación público-privada, Germany – Öffentlich-Private Partnerschaft, Italy – Partenariato Pubblico Privato, Denmark – Offentlig-Private Partnerskaber).

Despite the fact that individual experts [4; 5] put forward the thesis that the term PPP vs "government-private partnership" is more adequate to reflect the content of cooperation between the parties to the cooperation, the diversity of models of partnership between the state, business and society is even wider.

Literature review. The concept of public-private partnership is common in the approaches of international financial institutions in defining the essence of what is understood as a form of financial agreement between the public and private sectors. The most characteristic feature of the definition of public-private partnership, which is associated with the IMF constituent documents with the transfer of financial obligations to a private partner, is also shared by the European Investment Bank [10] and the World Bank [1; 8]. The approach of the United Nations Secretariat and the ADB

[10], which treats PPP as a model of cooperation between the two most powerful – the public and private sectors of the national economy, is fundamentally different. The OECD Scientific and Technological Policy Committee [9], in contrast to the parent organization, which focuses on the nature of the relationship between the state and business, defines the PPP separately as an innovative component of the cooperation between them.

The European Commission, the supreme executive body of the EU, uses a rather general definition of the nature of the PPP. Among the generalized characteristics of PPP, the following are recognized as follows: participants of cooperation are public and private sectors; the nature of the relationship between the parties of cooperation must be fixed in official documents and should be of equal partnership nature; participants in the process of commercial relations should pursue clearly defined general objectives and state interest in the provision of socially meaningful public services; the parties combine their efforts to achieve common goals, distribute costs and risks among themselves, and participate in the use of the results obtained on a parity basis.

A similar variety of approaches to the definition of the nature of PPP is also observed at the international level. The concept of partnership between the state and the private sector has not received a substantiated systemic interpretation, and existing definitions are of a recommendatory nature. Obviously, the specificity of the partnership between the state and business in a particular country depends on the goals, objectives, priorities of economic policy, legislative and regulatory framework, administrative structure and functions of the authorities, the level of development of civil society and legal culture, etc [7].

Purpose of the study. The purpose of this article is: (1) to generalize theoretical and methodological principles for identifying the essence of the concept of PPP in the SSNE, (2) to determine the peculiarities of the forms and models of regulation of the SSNE by means of PPP; (3) to propose strategic guidelines for improving the efficiency of PPP in Ukraine' SSNE; (4) to identify ways of modernizing the mechanism of regulation of PPP in the SSNE.

Results. The diversity of national forms and mechanisms of PPP by the criterion of the structure of its legal regime is classified as one that can be attributed to one of next models:

- a model with a lack of proactive comprehensive regulations in the field of PPPs, which is regulated by the general law on public procurement (Austria, Kazakhstan, Malta, Netherlands, Switzerland);
- the model of the minimum balanced legal regulation of certain aspects of PPP with the presence of numerous sectoral regulations in the absence of a complex profile (Azerbaijan, Belarus, the Great Britain, Germany, Denmark, Spain, Italy, China, New Zealand, Czech Republic, Chile, South Africa);
- a model with the presence of a unified comprehensive legal standard, but with varying degrees of completeness and detail of legal regulation:
- with the presence of special normative and safeguarding acts only at the central level (Greece, Egypt, Ireland, Latvia, Poland, Portugal, Romania, Serbia, Slovenia, Ukraine, France, Croatia, South Korea, Japan);
- with the availability of special regulatory and safeguards acts at both the central and regional levels (Argentina, Brazil, Canada, Mexico, Pakistan, the USA);
- with the availability of special normative and safeguarding acts only at the regional level (Australia, Belgium, Russia);
- a model with excessive over-saturation of PPP legislation, ineffective duplication of regulations at the national, regional, municipal levels (Brazil).

The presence/absence of a special management body in the field of PPP, the purpose of which is the implementation of service-infrastructure and other related objectives of centralized development, approval, approval, implementation, provision of projects, accumulation, systematization and synthesis of experience information, allows distinguishing between three varieties of national models:

- with the presence of one specialized central government authorities (special public - public fund) of different status (Australia, Argentina, Belgium, Brazil, the Great Britain, Germany, Italy, Kazakhstan, Canada, Latvia, Malta, New Zealand, Pakistan, Portugal, France, Croatia, Chile, Japan);
- with the simultaneous presence of several specialized bodies of state / public- public administration (Denmark, Ireland, China, Mexico, the Netherlands, Russia, the USA, Switzerland);
- with the absence of the special authorities of state / public administration in the field of PPP (Austria, Spain).

An approach based on assessing the degree of completeness of the systematic organization of the parties' cooperation in the framework of the PPP sets out the consolidated models:

- operator, with the assignment to the private partner of full or partial responsibility for the provision of service and infrastructure services, risks and responsibilities. In this case, funds received by the public partner for the services rendered are transferred in the form of remuneration to a private one;
- concession with direct contact of a private partner with consumers of services, direct receipt of money from them;
- a life cycle contract with responsibility for all stages of the creation, operation of an infrastructure object, quality of public services for a private partner;
- cooperation with the establishment of joint ventures by interested parties.

Own version of the classification of PPP models, with a strong emphasis on the level of innovation in the organization of activities, proposed by world-famous researchers of the problem – Touché Tohmatsu company:

- ordinary model (BOT, BOOT, BOOT, BBO, BOO, BLOT, DBFO, DBFT, DBF, DBO, DBOOT, etc.) with the overwhelming number of potential risks to a private partner;
- a model with reduced risks by transferring them to a partner who manages them better and also cope with financial implications;
- a model of partnership with the creation of several joint competing enterprises, the possibility of redistributing obligations between them after determining the expected level of performance and quality of services provided;
- model of the alliance, eliminating any competition and inconsistency of relations, maximizing the simplification of actions to prevent the risks of creating joint projects with unpredictable technical characteristics of the infrastructure, expected political risks;
- a model of phased (successive complementary) partnerships with the conclusion of a framework agreement, an opportunity for a public partner to suspend implementation of a particular stage, change the way of implementation of the project, involve other private partners in case of excessive length of the scope and duration of the implementation of the PPP agreement;
- the model of implementation of one of the private partners of the responsibilities of the strategic partner, “integrator” with the assumption of a significant part of the risk, while minimally participating in the implementation of the final stages of the project, optimal competitive stimulus during the period of project implementation of direct executors [2; 10].

The maximum consolidation of the PPP models allows for the identification of two global models – the contractual PPP and the institutional PPP.

The contracting of individual stages of performance of works, provision of public services, technical assistance does not involve the transfer of property rights, costs and risks to a private partner who acquires only the right to a specified proportion of income, profit or payments to be collected, a guaranteed market, privileges and preferences.

The rental (lease, leasing) involves the transfer to a private partner of state / municipal property for temporary use under certain conditions and at a specified fee. Return of the subject of lease relations by a private partner to the state owner, preservation of the last power of disposal of property (in the case of a lease) is opposed to the possibility of leasing the property by the lessee (in the case of leasing).

Conclusion of the concession agreement implies the right of the state partner of a private (on the condition of making a regular payment) that during the stipulated period the powers that are necessary to ensure the proper functioning of the object of cooperation.

In terms of remuneration opportunities for a private partner, there are three types of PPP projects:

- a model with an internal opportunity for a private partner to generate revenue by obtaining payments from users. The public sector is thus limited to defining the general conditions, accepting responsibility for the initial stages of planning, approval, announcement of concession competitions, providing procedural assistance through the issuance of operating permits;
- the model of providing a private partner for the provision of services in the field of state regulation of public works (prisons, hospitals, schools), with remuneration from the state partner exclusively in the form of payments on a commercial basis;
- the model providing a private partner with services with significant positive external social effects, the provision of which justifies the attraction of additional state / municipal financing in the case of insufficient payments for obtaining adequate financial returns.
- Consequently, the experience of developed countries in designing national patterns of partnership between the public and private sectors shows that the forms of PPP are differentiated by the parties to the cooperation on different classification grounds. By applying the applied classification of PPP models, the World Bank distinguishes four main aggregate models – Management and Lease Contracts; Greenfield projects; Divestiture; Concessions [14].
- The National Council on PPPs in the United States proposes a classification of its forms for the purpose of creation and separately allocates:
- partnerships created for the purpose of early implementation of priority infrastructure projects, formed in accordance with the procedures of the batch tender; partnerships, formed to involve management expertise of a private partner for the implementation of large and complex programs;
- partnerships whose primary goal is to attract new technologies developed in the private sector;
- partnerships aimed at attracting diverse financial resources available for business;
- partnerships that allow and encourage the development of the infrastructure created by a private partner, its ownership of the erected object and, accordingly, management of it and other capital [14].

Given the interpretations of the PPP, the purpose of studying its varieties from the point of view of understanding as an effective instrument of state regulation, rather than merely combining state and business resources, forms of economic relations, which combines state enterprise activity and other state corrective influences with the possibility of attracting

private investment and the competencies of private business, to the main characteristics of the PPP, which reveal the specifics of the partnership between the state and the private sector, should include:

- availability of public and private sectors;
- official relations between state and private participants;
- mutual relations of the parties are affiliated, equal in nature;
- long-term relations between the state and the private sector;
- pooling of assets (resources and competencies) of participants;
- state property as an object of partnership or joint participation of the state and business in the economic organization of a corporate type;
- the goal, which is to solve state tasks of socio-economic development of the country / region in the priority spheres of the economy;
- distribution of risks between partners;
- redistribution of responsibilities between the partners for more effective project implementation;
- availability of a profitable stage in the implementation of the PPP project [13].

The disclosure of the essence of the organizational-economic mechanism (OEM) of the PPP involves clarifying the internal content of the concept not only in the unity of the various and contradictory forms of being, but also in terms of diachronic understanding of its syntactic elements.

OEM (from the Greek μηχανή – device, device) – a multidimensional set of interacting subjects, methods, tools and processes of influence. The effectiveness of the use of OEM management is estimated by the indicators of the effectiveness of the implementation of methods, tools and levers of regulation of the object of management. An integral method for the formation of an effective OEM regulation of PPP in the SSNE involves, along with the creative combination of relatively limited, “pure” informational and functional approaches to its construction, observance of the universal principles of purposefulness, system city, adaptability, innovation. As a result, the formation and improvement of the conceptual model of the mechanism of PPP management in the SNS, ensures its functioning on the basis of real economic processes, the principle correspondence with the informational and functional nature of origin, the specification of the concept of “management system” in relation to the main objects of system analysis and achievement on this basis clearly the goals set, the additivity to the OEM of the highest level, the optimization of the regulated economic ones.

It is noteworthy that the OEM definition proposed by Nobel Prize winners in economics (2007) by L. Hurwitz, R. Myerson, and E. Maskin [6] is fundamental. The concept of a dynamic decentralized economic mechanism, proposed by L. Hurwitz, is fully in line with the requests put forward by the OEM PPP in the SSNE (Fig. 1).

In the context of European integration, the sustainable development of PPPs in Ukraine depends on the availability of effective OEMs. It should be recognized that in their research on PPPs, researchers focus on solving important but disparate applied organizational and economic problems that arise in particular segments and sectors of the social complex. The methodological principles of forming a holistic mechanism for the development of partnership in the social sphere have not yet been properly identified.

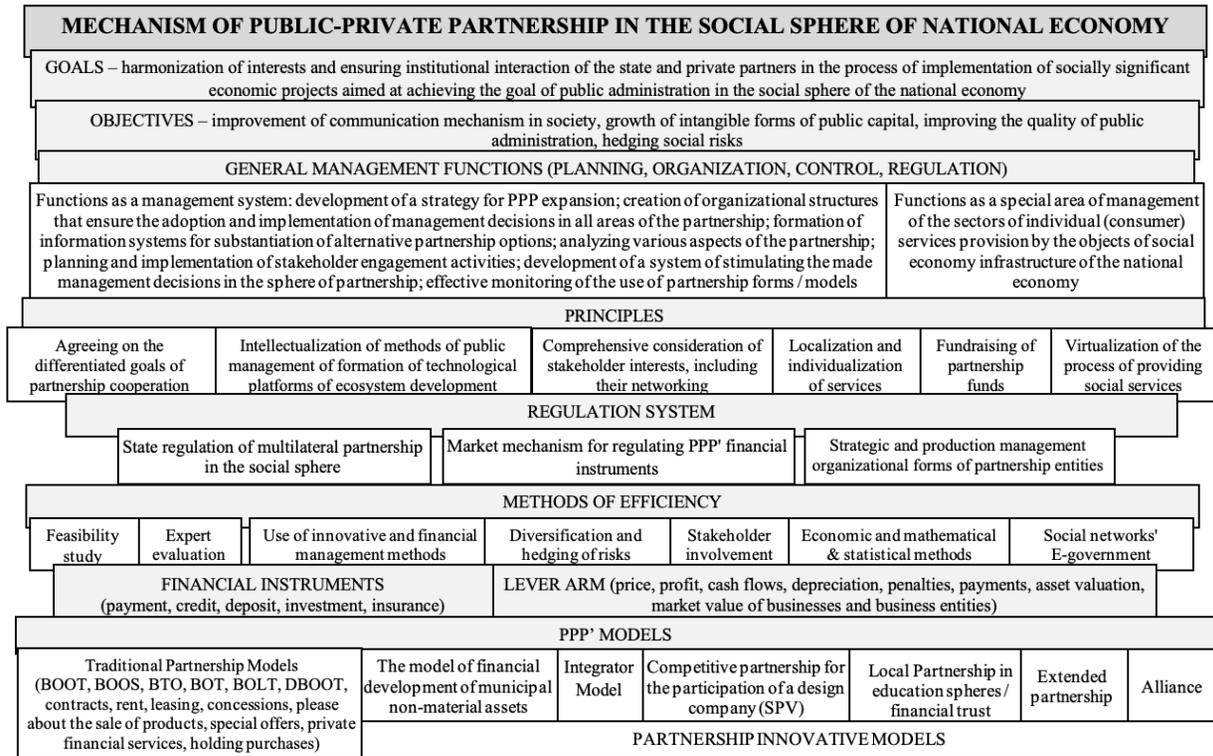


Figure 1. Scheme of the mechanism of PPP in the SSNE
 Source: compiled by the author

Listed in Fig. 1 the objects and constituent elements of the PPP mechanism, which are summarized by us taking into account the inherent nature of the purposes, functions, principles, methods, techniques, tools and forms, can be laid as the methodological basis for the development of an effective model for practical application in the SSNE.

OEM PPP at SSNE is a set of practical measures, tools and instruments of organizational and economic nature, structures and regulators, management methods, management decisions that shape and influence the procedure of PPP implementation in the SSNE of Ukraine, which will facilitate the achievement of the complex economic, social, environmental and other results. The OEM's implementation of PPP involves a combination of two components – organizational and economic.

Thus, OEM PPP in SSNE is a holistic formation with a clearly expressed structure, which is formed by the basic subsystems – blocks, between which a network of stable dependencies is established. This means that the destruction of one of them causes the destruction of another, as a consequence, of the whole mechanism, and vice versa.

OEM acquires special features in the case of the introduction of PPP in the SSNE in the conditions of the formation of a post-industrial knowledge economy. The peculiarities of the formation of the OEM are conditioned by the need for the introduction of modernized forms and methods of state regulation that are being prepared in the context of the renewal of the paradigm of the deployment of the new industrial revolution 4.0, which is associated with the processes of globalization of cost chain formation processes, the network structure of innovation clusters, decentralization and regionalization of the budget process. The determining reason for updating the system requirements for the formation of the OEM PPP in the SSNE is recognition of the uniqueness of the functioning of private-public and public sector institutions in the area of providing clean and mixed public goods. On the other hand, no less important argument is the need to remove formal restrictions on the possibilities of involving non-state structures in the process, recognizing them as sufficiently dynamic and effective.

It should be noted that PPP can become one of the most effective forms of cooperation between the public and private sectors in the process of state regulation of the development of collaborative innovative ecosystems in the SSNE. The prospects for such cooperation are based on the recognition that both parties can benefit from the pooling of financial resources, technology and management knowledge in order to ensure the sustainability of the forward movement in an accelerated “smart”, stable and inclusive innovation of the concept of “triple helix” the enrichment of its content through the implementation of the basic postulates of the network-local (global) concept of the formation of global value chains on the basis of promotion “quadruple helix” [3; 4; 11; 12].

The state-of-the-art management of public administration of PPP supports state-of-the-art management of the development of the state innovation regulation of public PPP management, including through the use of e-Government facilities; management of virtual networks; fundraising; outsourcing; participation in the implementation of social technology platforms; creation of crowdfunding platforms; conducting social certification of the region; staging of social experiments (including virtual ones); research of the needs of stakeholders of Regional (Territorial) Innovative Societal Ecosystem (R(T)ISS) in obtaining high-tech social services; formation of educational clusters on the basis of institutions of higher education as a “creative core”; creation of “nodes” of stabilization and development; new technical, intellectual, informational, social “centers of excellence”; top-priority design on the periphery of forward-looking, innovative and technology-intensive technologies; creation, according to the Japanese model, of innovative techno-political information and analytical background and cultural and spiritual environment of social rehabilitation of the regions; encouraging the use of energy- saving and environmentally friendly mini technologies for intensive and rational development of available natural resources - in the course of the implementation of the innovative social technology (IST).

IST in the post-industrial economy – a set of methods and techniques of innovation that are aimed at the creation and materialization of social innovations in society, the implementation of revolutionary innovations that cause qualitative changes in the R(T)ISS have a strategic consequence of streamlining the processes of using material and social resources, maximizing the social capital of the local community. State regulation of innovative development of public administration involves the introduction of institutional, structural, legal, innovative, technological, scientific and intellectual decisions that relate to organizational, conceptual innovations, as well as innovations in the field of improving the technology of managerial processes.

Unlike the RST, the management of the development of SSNE, which is characterized by low level of science, traditional methods of social influence, lack of effective motivation of its object, IST should be understood as a complex socio-cultural process, which, developing in accordance with objective laws, being closely linked with history and traditions, at the same time fundamentally changes the structure of R(T)ISS.

From the point of view of the modern socio-technological approach, in the framework of the implementation of the state regulation of the development of the SSNE to the R(T)ISS, the leading causes of the confrontation of the conditional “center” should come from national IES and industry/sectoral innovation ecosystem (I(S)IES) and territories strategic and tactical initiatives to promote the policy of regional socio-economic development. Actually, the latter should be based on innovative network technologies for attracting potential, currently “frozen” (hidden/shadow) economic, social, intellectual, scientific and technical resources, the growth of consumption of social services by stakeholders of the R(T)ISS.

Constant improvements in functioning models of PPP, expanding the “risk matrix” of projects allow expanding the list of their categories, specifying locations, and then using them to develop detailed maps of their means of preventing, weakening and eliminating them (Fig.2)

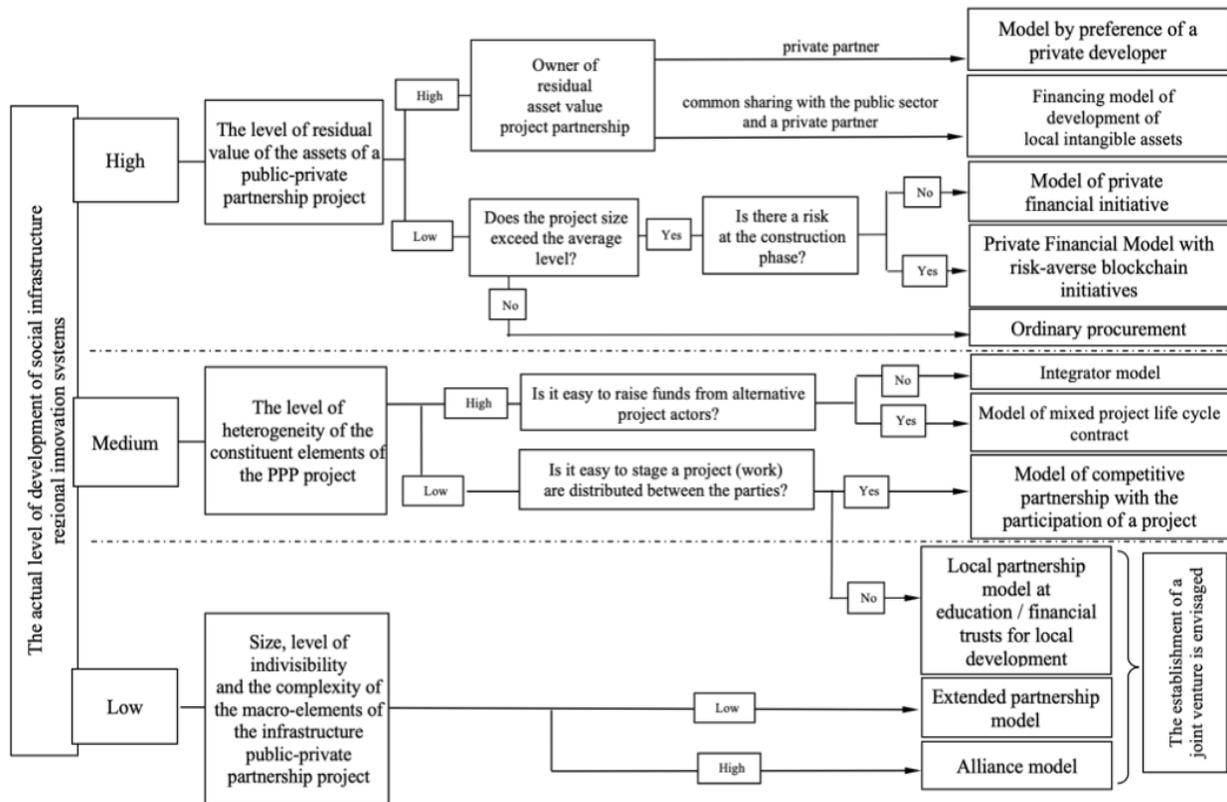


Figure 2. An algorithm for selecting an effective PPP model in the process of forming the infrastructure of SS of P(T)IES
 Source: compiled by the author

“Road maps” on the way to eliminating possible threats to the implementation of PPP projects in terms of locations during the implementation of regulatory actions by the executive authorities of the government administration must necessarily include a list of feasibility studies, legal expertise, audit of transactional pricing, formation of a system of non-financial criteria for evaluations of private partners, time management, engineering expertise, crisis management, competences’ management, operation management, management of emergency situations, the use of new financial instruments, in-depth technical analysis, management of framework agreements, providing the unpredictable impact of external risks and force majeure, constant change management. The complex nature of such an approach guarantees the realization of all the possibilities and advantages of using innovative models of PPP in the social sphere of a regional (territorial) innovative social and natural ecosystem, and in addition, it avoids the potential problems associated with those noted in Table 1 imperfections.

Table 1. Advantages and disadvantages of applying innovative PPP models in the I(T)CES of SSNE

| Model PPP | | Benefits | Disadvantages |
|--|-----------------------------------|---|---|
| Model of financing of local non-material assets development projects | | Long-term focus Maximizing public sector resources Engaging private sector experience Comprehensive investment promotion Continuous monitoring of partnership development High procurement efficiency | The complexity of maintaining parity in the field of control High cost of administration and management costs Low risk transfer capability Complex accounting organization complexities |
| | | Additional options to address the investment challenges of local EAPA: – if the level and specificity of risk, payback period, level of profitability do not meet market requirements, the viability of the project can be ensured by alternative methods; – insufficient level of financing in the public sector can be ensured by the receipt of alternative cash flows – non-availability for grant funding can be overcome by non-profit investing | |
| Model PFI | traditional | Ability to increase the value over the asset's lifetime High level of predictability of cost level and duration of partnership | High contract value Inflexibility Excessive duration of formal procurement procedures |
| | with enhanced risk avoidance unit | Focusing on the “value for money” problem during asset's lifetime Strong incentives for implementation Ability to be off-balance sheet | |
| Integrator model | | Role / responsibility allocation transparency (lower level of conflict of interest) Increasing the level of competitive pressure Attraction of a wide range of partners, including small and medium-sized businesses Lower procurement costs for the project High level of flexibility in program implementation | If the appointment of a strategic partner takes place prior to the formal procurement procedures, there is a risk of a lack of competence and service delivery skills. Lack of integrated supply chain |
| Model of local PPP in education / local financial trusts | | An opportunity for the public sector to retain influence over the strategic direction of investment High potential for continuous improvement during the next successful phases of project implementation | Conflict of interest for a strategic partner Too high a value for money benchmarking process Strong obstacles to the ability to attract alternative providers |
| Model of competitive partnership | | Early receipt of commercial funds from a private partner The level of competitive pressure does not decrease over time Effective benchmarking of project implementation costs | |
| Model extended partnership | | Low procurement costs High level of flexibility to meet the adjusting requirements Relationships are formed gradually, without long-term contact Constantly maintaining a high level of competition | The model is more demanding for public sector involvement Transferring major risks to the public sector Transferring ongoing responsibility to the public sector in the negotiation and management of the PPP project |
| Alliance Model | | Ability to continue implementing the project under uncertainty Increasing the level of cooperation and reducing the level of disputes between partners | |

Source: compiled by the author

Taking into account the fact that the mechanism for regulating PPP operating in Ukraine is influenced by the risk factors typical for all countries and the parties failing to achieve partnerships due to prior agreements of economic interests, and the process of using the organizational and economic partnership mechanism is aimed at meeting vital needs not only so many sides of a PPP that are in commercial relations, but to the general public of stakeholders, it seems advisable to pay increased attention to this aspect of the regulation of the development of the regional (territorial) innovative social and natural ecosystem.

Conclusions. The publication presents a theoretical generalization and solution of the actual scientific and applied problem, which consists in the development of theoretical positions, methodological approaches and scientific and practical recommendations regarding the improvement of the organizational and economic mechanism of regulation of public-private partnership in the social sphere of the Ukrainian economy. According to the results of the research, the following conclusions are made:

(1) The regulation of PPP is a key direction of introducing a system of measures of administrative influence of executive bodies on a complex of partner business relations between representatives of the authorities, business, public sector of society, local communities on the redistribution of powers in the field of the formation of innovative infrastructure of collective use, production of socially significant goods and services that are currently in the state monopoly. The regulation provides for the authorities to adjust the wide range of questions of transfer of responsibility, avoidance of critical risks, effective financial support, practical implementation, involvement in the management and distribution of profits of stakeholders of regional innovation systems on the principles of equality, openness, non-discrimination, adversity, ensuring integral efficiency, minimizing risks and costs.

(2) Investigating the international practice of regulation of the social sphere, combined with global industrial-logistic and information networks of regional innovation systems in the conditions of the emergence of the post-industrial economy, has allowed to substantiate the conclusions about practical non-alternative to the application of models of public-private partnership in the field of provision of public goods of collective use.

At the same time, full and high-quality satisfaction of demand for services of individual design by means of partnership cooperation is carried out within the framework of realization of the national innovation model of regulation of social sphere at the regional level.

(3) The analysis of PPP models that are associated with the national peculiarities of the implementation of the processes of supply of goods / services and contract management, the preparation of objects for turnkey operation, leasing, concessions, private financial initiatives, has made it possible to distinguish their key components elements that involve taking into account the objects of the purpose of use, functions, principles, methods, techniques, tools and forms that are collectively relied upon as a methodological basis for the development of an authority the economic and economic mechanism of regulation of the social sphere, the formation of a high quality social environment, ultimately - the quality of life in the conditions of the emergence of post-industrial economy.

(4) The strategic directions of using the mechanism of regulation of PPP in the SSNE, formulated in the work, provide for its constant updating in order to implement the elements of regulation of modernized requirements, the formation of which takes place taking into account the trajectories of the deployment of innovative social technologies. State regulation of the innovative development of public administration involves the introduction of institutional, structural, legal, innovation-technological, scientific and intellectual decisions that relate to organizational, conceptual innovations, and newest management technologies.

(5) It is established that the modern requirements of regulation of the social sphere of Ukraine by means of PPP are fully in line with the sequence of its stages, which comprehensively takes into account the locations of the stakeholders and their respective risk categories for the implementation of projects - development, sponsorship, cost overruns, delays in implementation, untimely delivery of goods / services, operational, insufficient demand and lower expected revenues, changes in macroeconomic conditions of implementation, incompleteness capital (of non-profit), force majeure, a conflict of interest. Elimination of threats, refinement of places of their deployment, development of detailed prevention (relief) maps can be carried out on the basis of a complex of measures of feasibility study, legal examination, transaction pricing audit, use of non-financial criteria for evaluating private partners, time management, engineering expertise, management competencies, operational management, emergency management, financial engineering, management of framework agreements, prevention of unforeseen ion of the impact of external risks and force majeure, change management.

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