

IMPROVING THE TERMS OF THE LIFE CYCLE CONTRACT FOR THE CREATION OF COMPLEX TECHNICAL OBJECTS IN HIGH-TECH INDUSTRIES

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Abstract: The article discusses the features of life cycle contracts (LCC) for the creation of complex technical objects as a form of public-private partnership (PPP), which is the basis for the development of industries of a modern innovative economy. These contracts are used in the design, modernization, and operation of transport infrastructure facilities, roads and road facilities, airfields, public utilities infrastructure, capital construction, state information systems, and specialized services industries. To improve contractual relations, it is proposed to use the theory of contracts of 2016 Nobel laureates Oliver Hart and Bengdt Holmström, based on the improving information management processes and applying incentive schemes that are optimal for various cases, allowing to take into account the interests of all interested parties and achieve the greatest effect from the execution of the contract. The developed recommendations and proposals are presented to ensure the validity of the cost estimates of the contract stages, stimulate the introduction of innovative technologies, and increase the effectiveness of investments at various stages of the life cycle of the implementation of projects for the creation of complex technical objects. The prospects of using innovative solutions for the use of blockchain technologies are considered.

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In the current diversity of innovative, research, and industrial projects, the most important task is to ensure the necessary flexibility in project management in order to achieve a given level of quality, which is the result of the integration of activities in the field of metrology, standardization, testing, accreditation, and certification, compliance with implementation deadlines and resource limits.

The existing system of concluding contracts for the implementation of design work does not have sufficient flexibility and requires improvement in order to minimize problems of violation of deadlines and to obtain results in general and individual stages of work.

The relevance of the study is determined by the fact that the better the terms of the contract are formulated, the more motives and incentives for participants to get the maximum benefit from interaction.

The aim of the study is to form more perfect contractual relationship using the basic principles of contract theory.

The theory of contracts is a direction in the development of institutional economics. It has been developing since the 1970s. The founders of the theory are rightfully considered Oliver Hart and Bengdt Holmström, who had the Nobel Prize in 2016. The theoretical tools they developed allow a deeper understanding of the specifics of real contracts and their application in various fields of activity. This is a relatively new theory; its provisions are often discussed in various scientific works, but are still not widely applied in practice.

The basic methodological principles of this study are based on the provisions of the theory of contracts in relation to the formation of contractual terms of the LCC.

The modern theory of contracts is a fundamental theory of the new institutional economy, which developed in contrast to the neoclassical. As economic science developed, more meaningful and accurate models emerged. Thus, the theory of market equilibrium assumes that the main mechanism of interaction between all agents is the price mechanism, while this provision does not allow to adequately assess the economic relations of those for whom the information component plays an important role, such as for customers and contractors, owners and managers of companies.

At the basis of the neoclassical theory are the provisions on the choice that makes the consumer, seeking to maximize utility, and the manufacturer, focusing on maximizing their profits in a resource-limited environment. This does not always justify itself in practice, as well as such prerequisites of neoclassical theory as transparency, accessibility and symmetry of information.

Not fully considered the motives of economic actors with their behavioral opportunism, that is, the desire to distort information in the personal interest. The idea of personal enrichment is accepted by both theories, but neoclassicists do not consider that enrichment is possible due to the imperfection of the market mechanism. Adhering to the theory of complete symmetry of information, they believe that the market mechanism is ideal, with which neoinstitutionalists disagree.

Implementation of the proposed recommendations in the Russian Federation is impossible without amendments to the existing legislation in the field of LCC. Therefore, we will formulate proposals for amendments to the relevant regulations:

article 94 "Peculiarities of contract performance" §7 chapter 3 of the law 44-FL:

«If the Contract provides for several stages of work, each subsequent stage cannot be started without a positive examination of the result of work in the previous stage»;

«The use of materials, the characteristics of which exceed the features of the those provided by the customer in the design and estimate documentation, may be the basis for the payment of the premium»;

«According to the Customer's decision, a separate stage of the Contract execution can be divided into several sub-stages. Each sub-stage is closed by the act of the performed works with the subsequent payment. At the end of the work on all sub-stages, the final act of work and the final payment are performed»;

article 94 «Amendment and termination of the contract» §7 chapter 3 of the law 44-FL:

«In case of circumstances requiring changes in the material terms of the contract, the parties may come to an agreement on the termination of such contract (in case of payment of actually performed works) and the conclusion of a new contract subject to changes in the material conditions»;

article 22 «The initial (maximum) price of the contract, the price of the contract concluded with a single supplier (subcontractor, contractor)» chapter 2 of the law 44-FL:

«The customer has the right to form a bonus fund of the total cost of work for each stage. The amount of the fund cannot be more than 15% of the cost of work on the stage. The amount of the premium paid to the contractor is calculated as the value of the bonus fund minus the fixed fines during the execution of works on the stage».

As a result of the study of the characteristics and practice of the application of LCC for the creation of complex technical objects we identified an objective need of improving treaty relations.

To this end, it is proposed to use the basic provisions and basic models of contract theory: the models of asymmetric information, of informative signals, of opportunistic behavior in its various interpretations and of incomplete contracts. Within the framework of each model, incentive schemes for contract participants are formed, which increase the efficiency of their interaction.

The results of the study and the recommendations developed can be used to solve the urgent task of improving contractual relations to ensure the validity of cost estimates of the stages of the contract, differentiating risks, stimulating adherence to deadlines, achieving the quality of work results, introducing innovative technologies, and increasing the effectiveness of investments in implementing projects to create complex technical objects in high technology industries.

In order to implement the proposed recommendations, in the Russian Federation there are proposals for amendments to the normative acts in the field of LCC.

The proposed practical recommendations can be used to improve the terms of the LCC for the creation of complex technical objects in the process of implementing high-tech projects.

Thank you for your attention!