

Characteristics of project management in the construction industry of the Russian Federation in modern economic conditions

O V Antipina¹ and M V Velm²

¹Department of Economics, Management and Law, Irkutsk National Research Technical University, 664074, Lermontov St., 83, Irkutsk, Russia Federation

²Department of Finance, Accounting and Analysis, Irkutsk State Agrarian University named after A. A. Ezhevsky, 664038, Molodezhnyi alley, 1/1, Irkutsk, Russia Federation

E-mail: antipina_oksana@mail.ru

Abstract. The construction industry is one of the key fund-forming industries, which determines the pace of economic development of countries, regions, and municipalities. The level of development of the construction industry determines the effectiveness of renewal of fixed assets and modernization of enterprises, solution of housing problems affecting each resident. The article analyzes factors limiting the activity of Russian construction companies in modern economic conditions. The role of project management in the construction industry is described. The basic principles of construction project management are analyzed. A comprehensive model of effective project management in the construction industry is offered. The main problems in the field of construction project management in modern economic conditions and the ways to overcome them are revealed.

1. Introduction

The construction sector of the economy is one of the most developing ones. It affects the development of the Russian economy. Changes in the construction industry associated with the implementation of strict requirements for the quality of construction projects, changes in the volume and scale of construction, the development of various forms of ownership have had a significant impact on construction industry management. At the same time, the labor and technical potential of the Russian construction industry remains underutilized and does not meet the current needs. The problems of untimely commissioning of construction objects, irrational use of construction equipment, significant losses of working time due to the downtime remain urgent.

The effective implementation of construction projects depends on many factors, including the management system in construction organizations. Deficiencies in the economic, organizational and management systems decrease a level of control over the construction industry. Studying a construction organization as an element of the construction industry system and analyzing its internal and external management relations, one can identify the most effective ways to develop and improve the general state of the national construction industry. At the same time, considering the construction organization as a project-oriented one, one can find difficulties with adaptation of the management system to the peculiarities of the industry of a particular territory.



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For the construction industries working under constant instability, uncertainty and an acute shortage of resources, the issues of system-wide management based on project management are decisive. They contribute to their viability and efficiency.

Since the last decade of the last century, the construction industry management has been based on the process-oriented approach, which makes it possible to build a model for the activities based on a comprehensive analysis and reengineering of existing business processes [1, 2, 3]. When developing a model, the management system is analyzed, business processes are identified, and their boundaries are determined. To identify potential, objective business processes, it is necessary to understand goals of each business process and skills required for its implementation.

The number of business processes that can be included in the model depends on the interactions of the enterprise with organizations participating in the production process, as well as on the types of facilities built by this enterprise.

2. Analysis of the index of entrepreneurial confidence in construction

When analyzing business processes, such characteristics as effectiveness (the degree of compliance of the outputs of business processes with customer requirements), efficiency (the minimum volume of resources used) and adaptability of the process to changes in customer requirements are assessed [4]. It is the smaller and more mobile organizations in the struggle for competitiveness and dynamism that acquire the most significant advantages. In modern market conditions, the main requirements for the organizational and production structure of a construction organization are flexibility and quick adaptation to changes in the external environment.

One of the main indicators that characterizes economic activities of construction organizations is the index of entrepreneurial confidence (Figure 1). During the analyzed period, its value was in the negative zone.

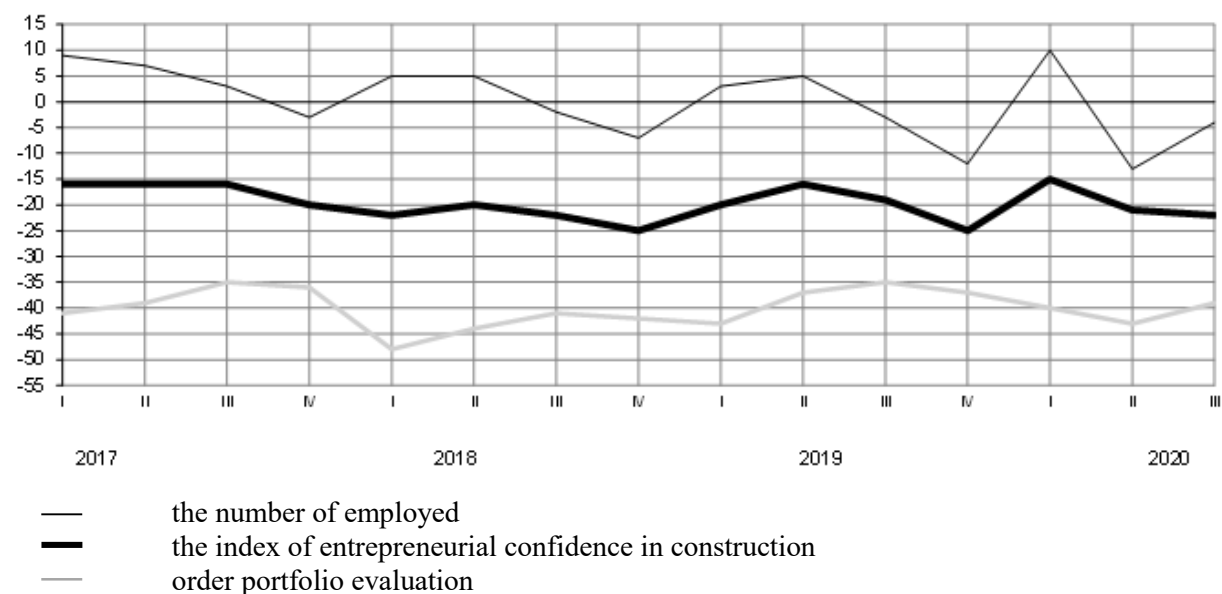


Figure 1. The index of entrepreneurial confidence in construction in the Russian Federation, % [5].

Figure 1 shows that the construction business in the Russian Federation operates in a slightly changing unfavorable business environment. In the first half of 2020, the values of the entrepreneurial confidence index continued to decline.

An analysis of the main factors limiting the production activities of construction organizations in the Russian Federation is presented in Figure 2.

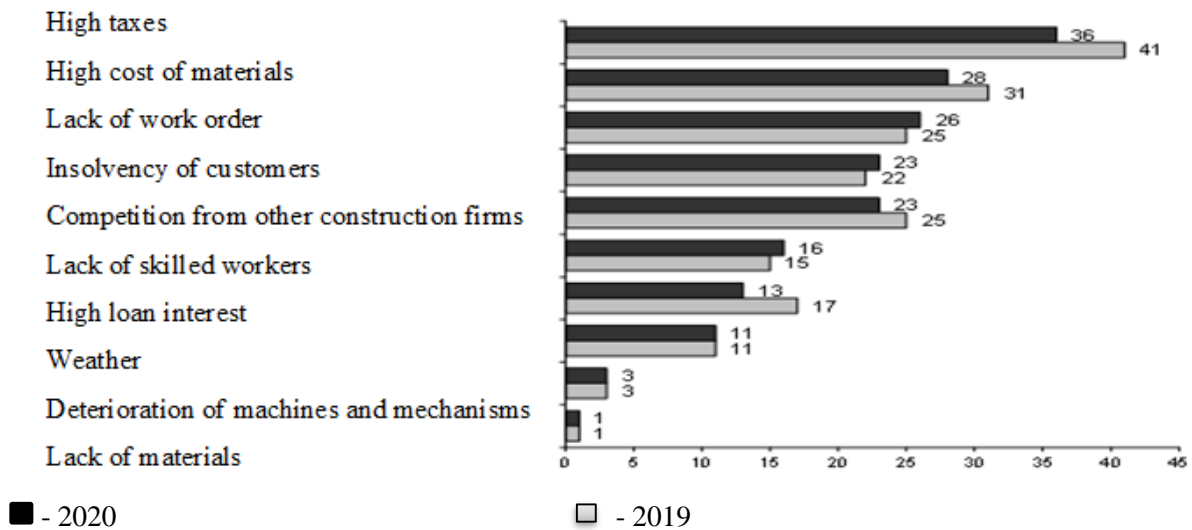


Figure 2. The main factors limiting the production activities of construction organizations in the Russian Federation в 2019-2020, % [5].

The construction industry of the Russian Federation still retains the status of the most problematic one among the basic economic activities. Among the main factors that hinder the more effective development of the construction industry are high taxes, high costs of materials, structures, and products, and the insolvency of customers [6, 7, 8]. At the same time, according to experts, the most significant problems are associated with the effectiveness of project management.

The key problem of the effective development of the construction industry is the lack of systematic scientific and methodological foundations for the construction project management. The projects should be adapted to the national and regional conditions. The lack of appropriate practical recommendations for the project management is also a crucial problem [9, 10, 11].

Construction project management is organizational and managerial activities aimed at ensuring the efficiency of investment in a construction object and achieving full compliance of the object with its intended purpose, investor's cost, timing and quality requirements, the legislation, and quality standards. The compliance with the quality standards is the main goal of project management activities.

The effectiveness of project management in the construction industry depends on the effectiveness of the application of the principles it is based on (Figure 3).

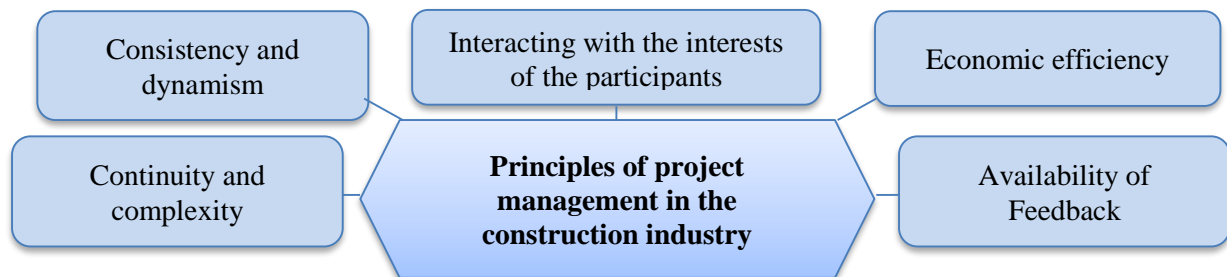


Figure 3. Principles of project management in the construction industry (compiled by the authors).

The effectiveness of construction project management depends on the systematic use of the principles of project management presented in Figure 3.

Using the correct construction project management methodology based on the principles presented in Figure 3, the project manager can identify and minimize risks, costs and ensure compliance with project schedules.

3. The model of effective project management in the construction industry

Based on the analysis of domestic and foreign studies, we have developed a comprehensive model of effective project management in the construction industry (Figure 4).

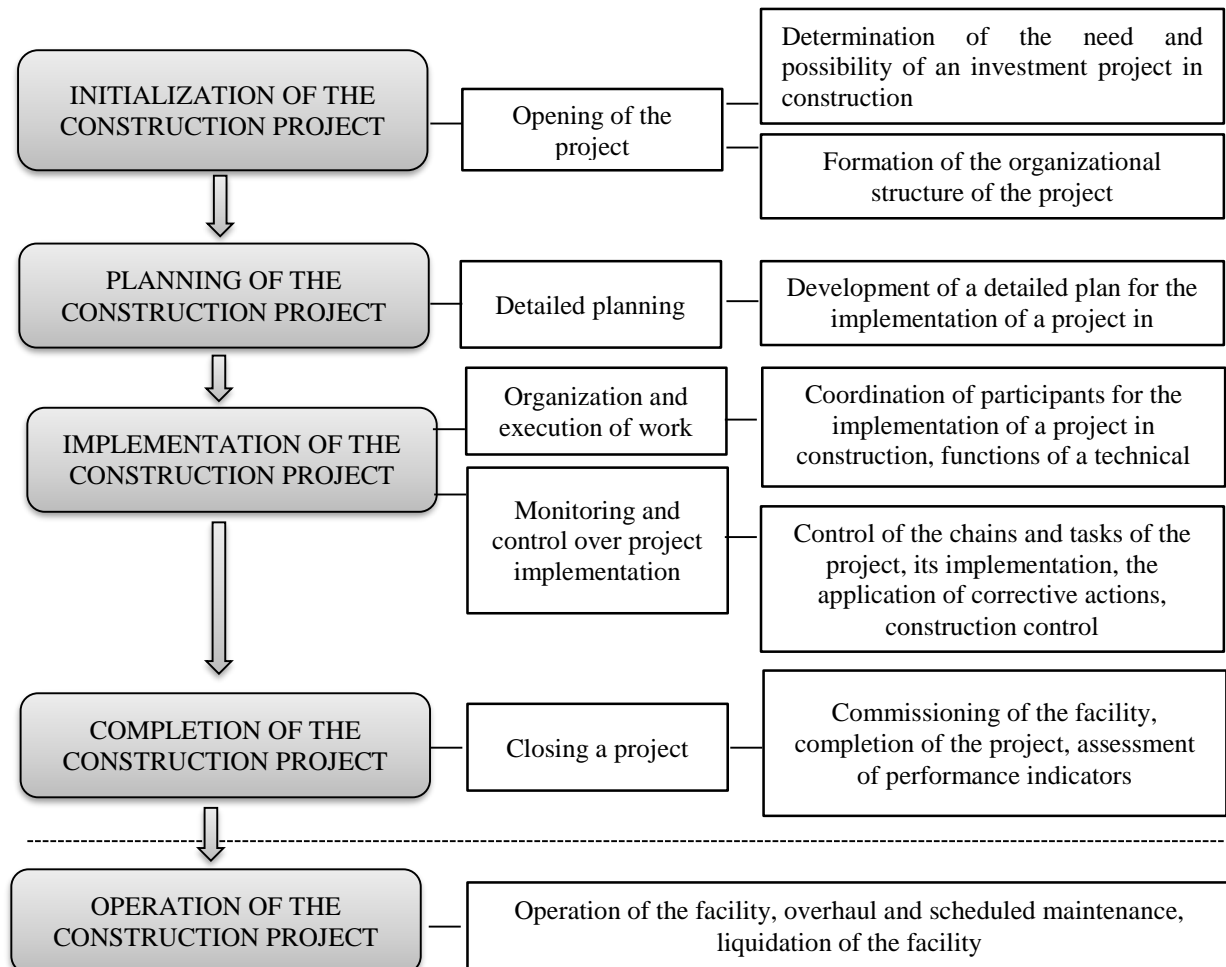


Figure 4. The comprehensive model of effective project management in the construction industry (compiled by the authors).

The choice of construction project management methods depends on many factors. For example, it depends on the socio-economic characteristics of territories and industries that use either the "Project Management Body of Knowledge" method (a body of knowledge on project management, including a set of standards and solutions related to the project management activities) or "PProjects IN Controlled Environments", which is a project management method based on the experience of project managers from Anglo-Saxon countries. It can be used to manage and control any project [12, 13].

Regardless of the form and methods of project management, a number of factors that affect the effectiveness of project implementation should be taken into account. The factors can be divided into two groups [14, 15]. The first group includes actions of customers, contractors and suppliers. The second group includes activities of the construction project team.

An analysis of the main aspects of the project management efficiency in the construction industry allows us to identify several problems: the lack of a unified project management methodology; incorrect assessment of resources of the territory where the object is planned to be built; incorrect assessment of project financing and economic efficiency of a construction project; the lack of a balance of responsibility of project team members; the lack of required skills [16].

The solution to these problems should be complex: software implementation, development of systemic approaches to the staff development. The competitiveness depends on specialists with updated skills that meet requirements of the modern economy. To implement a construction project, it is necessary to involve specialists from various fields with an appropriate level of professionalism, knowledge and experience, and coordinate actions with employees of other organizations.

4. Conclusion

The most typical form of a construction project is a joint venture which involves a number of different organizations, combined to form a “construction project team” responsible for the project design and construction. All parties involved in the implementation of the project influence the project efficiency. It should be noted that in the construction sector the level of efficiency of project implementation depends on project results that exceed quality standards rather than on the achievement of goals set.

The systematic approach to the construction project management is aimed to optimize the investment cycle through the detailed planning and timely attraction of resources; to reduce costs by eliminating inconsistencies and continuous monitoring of the technology of work performance; to apply a unified methodology and unify the information space; to integrate subsystems for managing contracts, supplies, and the estimate system into a unified scheduling and project monitoring system [17].

New large-scale projects in the construction industry depend on the pace of its development, an increase in the volume of investment, and an effective project management system. From a macroeconomic perspective, housing construction, home purchase, and mortgages are consumption rather than investment activities. The economic growth depends on investment in fixed assets. Any stimulation of consumption decreases the volume of investment in production, namely, the growth of production is the main factor in increasing the real incomes of the population, which is a crucial problem for the Russian economy.

Thus, in modern economic conditions characterized by instability, uncertainty and an acute shortage of resources, the issues of system construction project management are decisive. They determine the viability and efficiency of construction companies.

Currently, for the effective development of the construction industry, it is necessary to take measures aimed to increase the volume of investment. In this regard, the practical and theoretical issues of construction project management require special attention and research.

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