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DEVELOPMENT OF RECOMMENDATIONS FOR IMPROVING THE CONSTRUCTION PROJECT MANAGEMENT SYSTEM

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Abstract

The theses consider the main problems that arise in the process of managing construction projects, and also analyze modern approaches to increasing the efficiency of management processes in construction. Based on the identified shortcomings, practical recommendations are proposed for improving the management system, in particular through the implementation of digital technologies, optimizing communications between project participants and improving control over the performance of work. The proposed measures are aimed at reducing risks, improving the quality of project implementation and efficient use of resources.

Keywords*: construction project management system; risks; corporate culture; monitoring system; information environment; BIM.*

INTRODUCTION

Construction is one of the most resource-intensive, risky and complex sectors of the economy. Construction project management processes cover a wide range of functions: planning, coordination, logistics, financial control, staffing, quality and compliance with deadlines [1-4]. The construction sector is the only land-based sector of the economy that ensures the creation of infrastructure, housing and production facilities. In today's conditions of increasing requirements for quality, deadlines and cost of project implementation, traditional construction management methods are increasingly losing their effectiveness. The increase in project complexity, the introduction of digital technologies and market globalization require new approaches to management. In this regard, the implementation of modern project management methods, such as BIM, Lean Construction, Agile, which do not allow optimizing processes, increasing productivity, reducing losses and risks, is becoming relevant. The study and adaptation of these approaches to construction practice is becoming an important scientific and practical task.

MAIN PART

Improving the construction project management system is a key factor in increasing the efficiency of project implementation, reducing risks, improving the quality of work performed, and increasing the overall competitiveness of construction companies. Based on the results of the analysis of industry problems, the practice of using modern methodologies and digital tools, this section offers systematic recommendations for the transformation of management approaches.

1. Improving the organizational management structure

• Introducing a project-oriented management structure, where each project has its own team with clearly defined roles.

• Highlighting the role of the project office (PMO) as a center for standardization, control, and project support.

• Using matrix structures to ensure effective interaction between functional units and project teams.

2. Implementing modern management methodologies

• Combining classical (PMBOK, PRINCE2) and flexible (Agile, Scrum) approaches depending on the type of project:

o Classical approach - for large infrastructure facilities with fixed parameters.

o Agile/Scrum — for modular, fit-out or IT-integrated construction.

• Lean Construction as a strategy for continuous improvement and elimination of losses in processes.

• BIM as a standard for managing the life cycle of an object, including planning, design, construction and operation.

3. Increasing the digital maturity of enterprises

• Formation of a digital development strategy for the company with an emphasis on automation of management processes.

• Integration of management systems (ERP, CRM, BIM, PMIS) into a single information environment.

• Deployment of dashboards for managers and analysts based on Power BI or similar platforms.
• Implementation of an electronic document management and electronic signature system.
4. Improvement of the control and monitoring system
• Automation of reporting on key performance indicators (KPI) through digital platforms.
• Regular audit controls using EVM (Earned Value Management).
• Use of cloud solutions for real-time data access.
• Development of the risk management function: creation of risk maps, response plans, constant updating.
5. Professionalization of the personnel
• Certification of personnel according to international standards: PMP, IPMA, PRINCE2, BIM Specialist.
• Formation of internal training programs, in particular:
o Change management in projects.
o Agile management (Agile in construction).
o Work with BIM platforms.
• Development of soft skills (communication, negotiations, teamwork) for project managers.
6. Ensuring the quality of management decisions
• Development of internal project management standards.
• Application of lessons learned and knowledge management policies to preserve corporate memory.
• Use of scenario analysis to make management decisions under conditions of uncertainty.
• Involvement of independent external experts in the planning or audit stages.
7. Formation of a partnership ecosystem
• Development of a system of contractors and subcontractors based on long-term contracts and digital platforms.
• Integration of the customer into the management environment through common information platforms.
• Use of Open Book Contracting, IPD (Integrated Project Delivery) approaches.
8. Creation of a corporate culture of project management[5]
• Institutionalization of management practices through policies, regulations, standards.
• Encouragement of initiative, openness to change, teamwork.
• Implementation of KPIs not only for projects, but also for management personnel.

Conclusions

Improving the construction project management system should be based on a comprehensive approach that combines organizational changes, digital transformation, methodological renewal, personnel development and change in management culture. Implementation of the above recommendations will significantly increase the efficiency of project activities, reduce costs, minimize risks and ensure stable development of the enterprise in conditions of high competition and rapid changes in the industry.

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