

Methodical approach to building system of motivation of the project team

Valeriya Glazkova¹

¹Department of Management and innovation, Moscow State University of Civil Engineering (National Research University), Russia

Abstract. Currently investment and construction activities are based on the implementation of development projects. As any project's success heavily depends on joint efforts of a project team members, there is an urgent need for a motivation system able to stimulate team members' result-orientation and satisfy their individual needs. The Project Management Body of Knowledge (PMBOK) methodology is suggested as a basis for building a sound development team motivation system, with its motivational tools correlating to stages of project management. The purpose of this article is to build methodical approach to system of motivation of the development project team. The methodological approach is formed taking into account the correspondence of the goal and the type of motivation depending on the stage of project management, as well as on the basis of the principles of forming the motivation system of the project team. The result is a constructed conceptual model for the development of a motivation system for the development project team based on the principles of PMBOK. Methods of comparative, empirical, system and economic analysis were used to substantiate the propositions put forward in the article.

1 Introduction

Rapid expansion of real estate development market has become a driver for construction and property development companies to update managerial techniques used for organizing their activities. Nevertheless, with many construction organizations trying to incorporate principles of project management approach into their practice, only few of them have succeeded in gaining desired financial results. Where it comes to real estate or property developers in Russia, their failure in applying project management basics is often explained by the lack of staff motivation within poorly organized development team management.

Today, in fact, staff is the greatest challenge for a company management to deal with. Tough competition together with constantly changing external environment have turned effective personnel management and, particularly, proper staff motivation, into a must for all businesses, including construction ones. As a project implementation implies a joint endeavor of all the employees involved, its success is highly risky if a motivation system aimed to stimulate the team is poorly built or is not built at all.

Motivation is obviously one of the most critical human resource management functions. Therefore, it is a company's staff rather than its size or industry sector that influences

business failure or success. All companies depend on employees' satisfaction with their working conditions, their involvement in achieving common goals, and on their assurance in getting results desired. In other words, staff motivation system provides managers with tools for stimulating employees' activities which result in satisfying their individual needs and thereby help a company to achieve the goals set.

Contributing to the gross fixed capital formation and reproduction, construction industry is an important actor in the national economy ensuring economic growth in other industries. Furthermore, construction business in today's Russia is one of the most labor-intensive sector known for its great volume and scale of production.

Internal and external environment instability nowadays impacts all the processes in the national economy. This cannot but influences economic performance in business sector and, therefore, in construction industry, which is also influenced by global economic trends. The volume of construction work carried out in Russia from 2010 to 2019 is presented in Figure 1 [1].

According to the diagram in Figure 1, construction industry saw the greatest growth rate in 2011, 2012, 2015 and 2019.

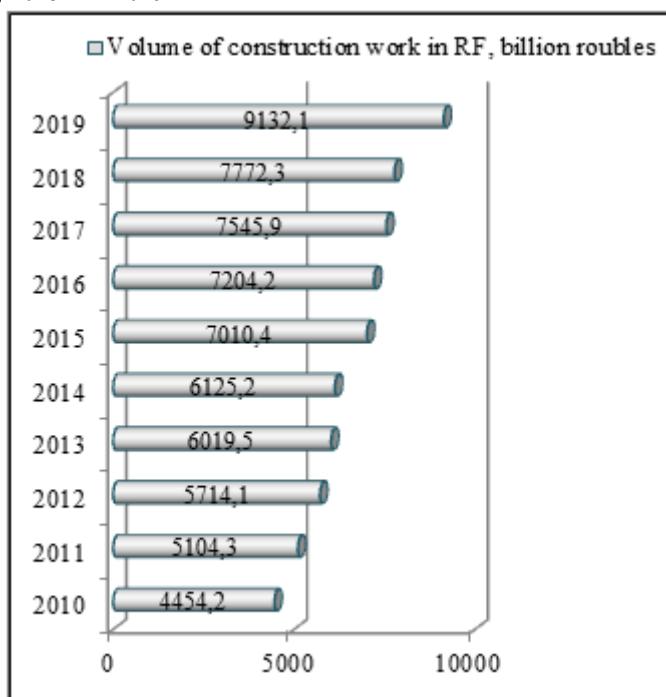


Fig. 1. Volume of construction work in Russian Federation, 2010-2019.

Analysis of statistics on the total area of dwelling stock put into operation during the last decade [1] reflects a steady growth in Russia's construction and development market. However, damaged by the economic crisis of 2014 the market was shrinking from 2015 to 2018 [2]. In 2019 eighty million square meters of new dwellings were built, a 5.7 per cent increase compared to the previous year [1].

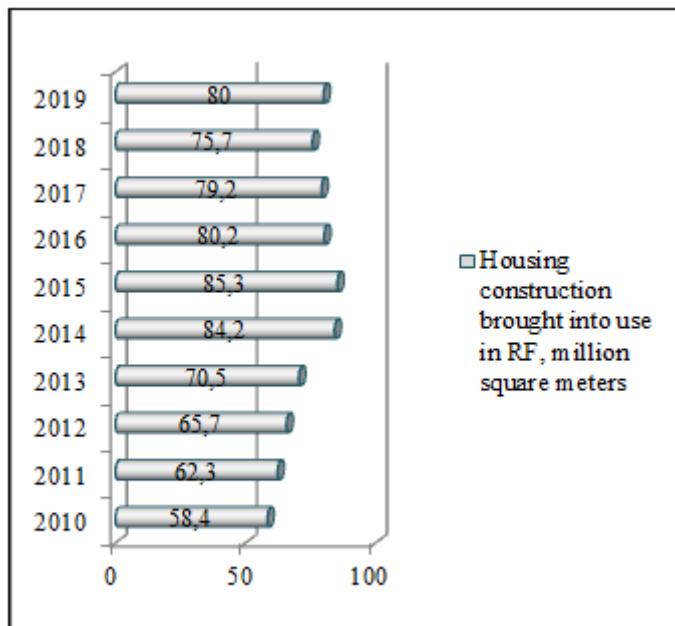


Fig. 2. Total area of housing construction brought into use in Russian Federation, 2010-2019.

Investment and construction activities are nowadays triggered by development projects aimed at construction of one or a group of buildings followed by their commissioning. Implementation of any development project is based on joint efforts of team members. Thus, project result-orientation should be used as a powerful instrument for motivating a team: employees should clearly understand their individual objectives within the project goal and strive to achieve them, while realizing personal responsibility for accomplishing their tasks and performing their duties. Furthermore, all staff members should be able to interact with their co-workers and other project participants. A critical project manager's task is, therefore, to facilitate interaction between team members and stimulate their project goal-orientation using effective motivational techniques based on a clear understanding of employees' individual values and needs.

2 Methods

Motivation of project teams is traditionally defined as inspiring people to perform desired actions. For instance, according to M. V. Ermolaeva and Zh. M. Kokueva, project team motivation is understood as an incentive or a motive, an active state of a human being stimulating individuals to perform actions, genetically inherited or acquired with experience, aimed to satisfy their individual or group needs [2]. Other researchers, L.M. Deputatova, Zh. A., Mingalyova and Yu.V. Starkov identify project team motivation as employees' intention to satisfy their needs or gain certain benefits through their work [3].

While agreeing with the researchers' approach, we define project team motivation as stimulating activities driven by employees' desire to satisfy their special needs. Thus, motivation system aimed at a project team can be viewed as a combination of motivating factors, valuable for team members and satisfying their needs and wants [4].

Assessment of staff or department performance is often indicator-based. Choice of indicators depends on the type of tasks being accomplished by a worker or a group [5].

Thus, workers are evaluated in accordance with volume of proper quality products produced over a given period of time, number of faulty products, number of days overdue while completing the task, number of standard hours worked, and alike. Performance of department managers is evaluated according to such indicators as number of tasks their subordinates performed, volume of proper quality production, number of faulty products per department, compliance with or failure to meet the specified deadlines for work, provision of personnel with tasks, number of downtimes, timely reporting and so on [6]. Set of key indicators for a project manager evaluation include compliance with the project stages, number of days of failure or ahead of schedule, compliance with the project budget, reducing project costs, number of project objects, timely reporting, and others.

Actually, monetary and non-monetary incentives for a project team may be also based on these or similar performance indicators.

It is important to emphasize that a company's motivation system should be unique and tailored to the nature of its economic activities. Thus, taking into account their sectoral conditions, construction companies are practicing two main dimensions in motivating their labor force:

1. creating good working conditions aimed to indirectly motivate employees due to such influencers as attractive job, favorable organizational morale and psychological climate, career and personal development opportunities, and comfortable workplace;

2. building a system of monetary and non-monetary incentives aimed to directly impact workplace behavior which implies such motivators as bonuses, additional payments, high praise and assessments from superiors, promotion and career advancement, insurance options, and other incentives [7].

Regarding a high-performing project team, acknowledged in the PMBOK Guide as a crucial factor of a project success, it is motivated by fostering a healthy team environment which results from effective conflict management, open communications between team members and managers, regular information on desirable changes in the project and on the results achieved, participative problem-solving, and delegating in decision-making [8].

In this context, it is reasonable to use the PMBOK methodology as a foundation for developing a project team motivation system. Recognized as a standard in today's project management, this methodology is based on a thorough analysis of project managing experience gained by professionals in 150 countries, and integrates its most successful practices and advanced techniques.

According to the PMBOK, for the entire project management process to succeed it should be subdivided into five basic process groups: initiating, planning, executing, monitoring and controlling, and closing [8].

Obviously, it is a project team with its huge amount of work to do that moves the project through all the five process groups and, thus, directly influences project success or failure. Therefore, to be effective a motivation system aimed at this team should consider characteristics of each project stage or process group [9]. For instance, at the project initiating stage, even before the work actually starts, it is necessary to create team members' common feeling of a project future success and, therefore, motivate their desire to be involved in the process.

Because project planning and executing are long-lasting stages, motivators should facilitate not only team members' performance on meeting project targets and timelines but also their active long-term emotional involvement in the project at both stages [10, 11].

Expertise and competence of team members and their ability to be task-focused are of the utmost importance at the final, project closing, stage. Fair estimation of performance results together with adequate rewards will inspire team members to make a final push and close the project or its phase.

Therefore, designing effective motivational tools aimed at project team requires realizing and specifying goals of motivation for each project stage or process group. Table 1 illustrates this correlation.

Table 1. Correlating goals and types of team motivation to project management stages (based on the PMBOK).

Project Management Processes/ Stages (according to the PMBOK)	Goals of motivation	Types of motivation
Initiating	To build an aura of project success and stimulate team enthusiasm. To specify individual benefits which project participants will gain in case of the project successful implementation	Non-monetary rewards when a project stage goals are achieved. Team-building.
Planning	To formalize individual benefits which participants will gain in case of the project successful implementation.	Monetary rewards: ensuring correlation of rewards to performance results, i.e. to attaining final and intermediate targets.
Executing	To meet the project targets within the specific timeframe. To keep project team members emotionally involved.	Non-monetary rewards: maintaining the aura of project success and facilitating team spirit (informing participants on project progress, discussing achievements, using effective methods of problem-solving and conflict resolution, collective decision-making when appropriate, etc.).
Monitoring and Controlling	To ensure meeting the project targets, including those at intermediate stages, in due course.	Monetary rewards: in case of successful completion of project stages and reaching project milestones.
Closing	To attain the project objectives, comply with timelines, and eliminate claims in relation to the project.	Monetary rewards: based on the official data on project implementation and closing (closing contracts, acts, etc.).

3 Results

In this paper a development team motivation system is defined as interrelation and interdependence of objectively existing factors, managerial tools, incentives and principles stimulating team to effectively achieve project goals [12].

In general terms, building a system of motivation aimed at a real estate development team may include the following stages:

1. diagnostics of existing motivation system;
2. formulation of goals and principles of building a team motivation system;
3. development of a team motivation system;
4. elaboration of internal rules and regulations allowing to document and implement a motivation system aimed at a development team.

Principles or guidelines underpinning efficiency of staff motivation system and, therefore, efficiency of team motivation system, are presented in Table 2.

Table 2. Basic principles/ guidelines applied to building a motivation system aimed at a development team [13, 14].

	Principles/ Guidelines	Contents
1	Polymotivation	Work behavior is affected by a number of interrelated motives.
2	Hierarchy	Motives or incentives must be prioritized according to their impact on staff performance: those providing the highest efficiency should be used first.
3	Fairness	Each team member must be treated in a fair and just manner, both as a personality and as a contributor to the project effective implementation.
4	Reinforcement	Each motivator contributing to the team performance must be documented in the organization's internal rules and regulations.
5	Optimality	The ratio between the cost of monetary rewards and non-monetary measures of social protection must depend on two factors: competitors' offer and financial possibilities of organization.
6	Clarity and ease of system understanding	Motivation system must be unambiguous, described in plain language, logically structured and clear to team members.
7	Compliance with corporate strategy	Motivation system must shape and maintain workplace behaviors, ensuring achievement of the goals set.
8	Flexibility and adaptability	Motivation system must be flexible, able to adjust to changes in external environment.
9	Comprehensiveness	Motivation system must serve all the team members.

Based on the PMBOC methodology, principles and stages of motivation system development, our conceptual model for building motivation system aimed at a development team is illustrated in Figure 3.

In terms of structure, the model (Figure 3) consists of three sections/ blocks: goals, analysis and implementation [15].

The goals section/ block describes results desired: aimed at a development team motivation system, built and implemented in order to stimulate staff performance and achieve project targets.

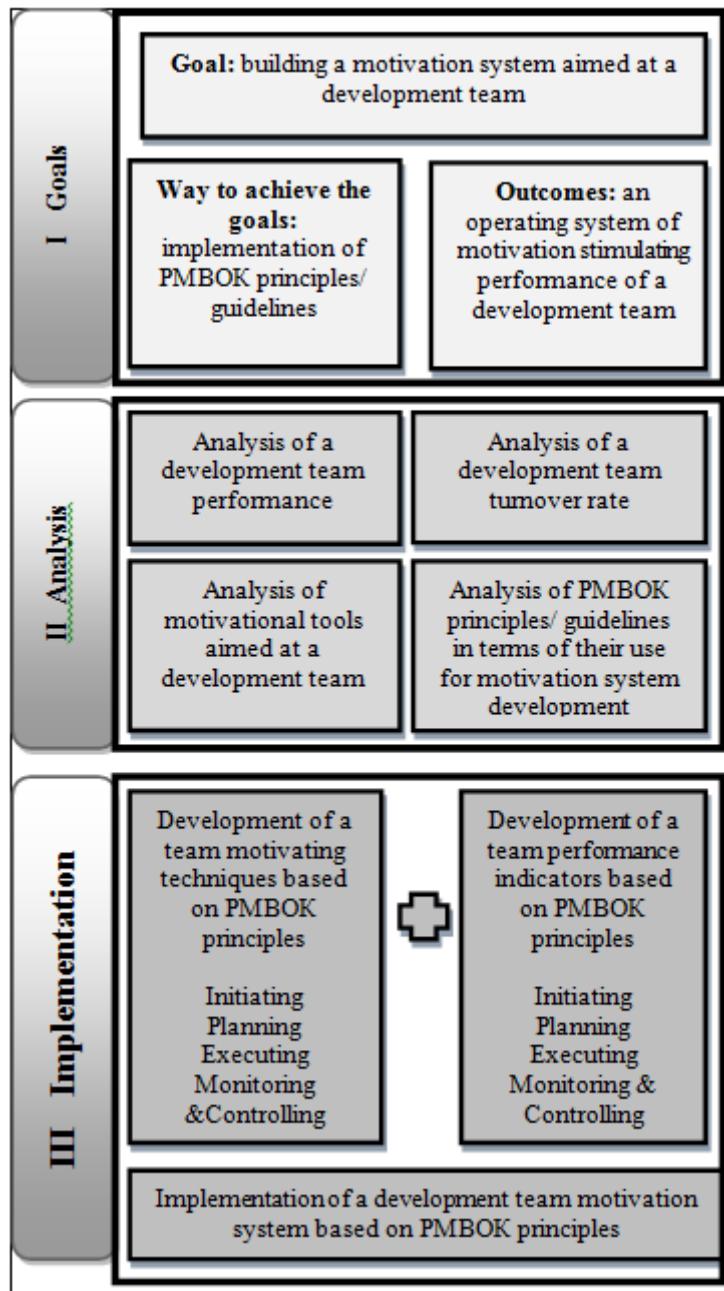


Fig. 3. Based on PMBOK principles conceptual model of motivation system of team of a development project.

The analysis section/ block of the model specifies direction of analysis required for achieving the desired results:

- performance analysis is carried out to assess efficiency of team members' work and evaluate its impact on financial performance of a company at large;

- analysis of the staff turnover is carried out to calculate turnover rates and find out specific reasons for the staff leaving;
- analysis of motivation methods aimed at the project team is carried out to assess the stimulating effect of the existing motivators on the performance of project team members;
- analysis of the PMBOC guidelines is carried out to assess their usefulness for motivation system development.

The implementation section/ block of the model consists of three subsections:

- development of project team motivating techniques based on the PMBOC principles, that is, correlated to the stage of project management;
- development of project team performance indicators as a basis for evaluating effectiveness of the motivation system used;
- development of practices and measures to implement the new motivation system into managing a development project.

4 Discussion

The author's conceptual model can be applied as a practically useful methodological tool to building motivation system of team of a development project and, therefore, it can be scaled.

It is worth agreeing with the authors that there are a few distinctive features characterizing a development project: critical importance of project's end result, timeframes for project stages, and necessity to attract experts in different areas for implementing various tasks at different stages of the project [15]. The project team has a huge responsibility and a large number of responsibilities. The vast experience of the most successful project managers in many countries of the world, on the basis of which the guide to the Body of Knowledge on Project Management has been developed, clearly indicates the need for development and motivation of the project team.

A psychologist Victor Vroom [16], based on their own observations of work and behavior of employees, in «Theories of expectations» confirmed the idea that staff members are aware of that the importance of the tasks and their outcome will directly affect their remuneration. The more difficult the task, the more effort it takes to complete it. Accordingly, the more effort is made, the more valuable the reward should be. Based on these studies, the motivation formula was derived (Figure 4).

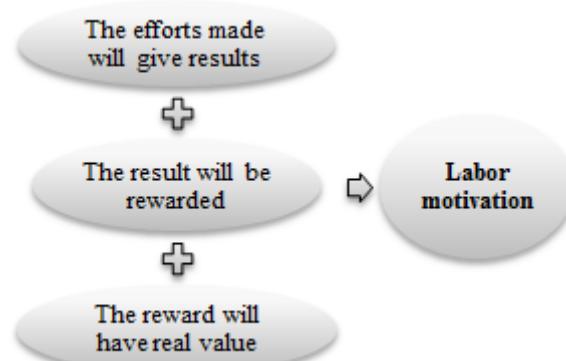


Fig. 4. Motivation in accordance with the «Theory of expectations» by W. Vroom.

From a practical point of view, this formula works only if all the points of this formula are met, and management has confirmed in advance that a positive result is higher than the

employee's performance norm. Herzberg's two-factor theory also confirmed that factors related to the achievement of goals, career growth of an employee, recognition of the results of his work, promotion of responsibility and individual development have a motivating effect on employees, directly affect the workflow and can be used as stimulators to increase the performance indicators of personnel.

The external and internal environment of companies is constantly changing, therefore, the developed model of the motivation system for the development project team should change and adapt to changes [17]. New principles of the motivation system, performance indicators of the project team members may be added, changes in the list of motivation tools or in the methods of calculating the amount of remuneration will be required. However, the proposed conceptual model can be used as a fundamental basis for the formation of a system of motivation for the development team of the project. It can be scaled, and therefore deserves interest. A further task within the framework of forming a motivation system for the development project team can be the creation of a system for monitoring the effectiveness of the proposed model in practice, as well as the search for ways to improve it.

5 Conclusion

To sum up, shaping motivation system aimed at a project team, these features require focusing on the following key issues:

- stimulating team's timely and proper implementation of project goals and objectives;
- encouraging collaboration and building synergies between divisions involved in project implementation;
- maintaining team good discipline;
- building up resources for decision-making on staffing, rewarding or punishing issues;
- encouraging timely, positive and constructive feedback from project team leaders to team members.

In this regard, motivational techniques aimed at development team members should consider stimulation based on reinforcement theory of motivation, regulation staff behavior by goal-setting, as well as job enrichment and job design together with staff empowerment.

References

1. Official statistics of the Russian Federation – Federal State Statistic Service (Rosstat).
2. Ermolaeva M.V., Kokueva J.M. Psychological Approaches to Motivational Processes in a Project Team. The Bulletin of Irkutsk State University. Series Psychology, 2019, vol. 28, pp. 20-34 (2019).
3. Deputatova L. N., Mingaleva Zh. A., Starkov Yu. V. The Mechanism of Formation of Labor Motivation of Employees. Izv. Saratov Univ. (N. S.), Ser. Economics. Management. Law, 2018, vol. 18, iss. 4, pp. 401-406 (2018).
4. Panteleeva M.S. Assessment of influence of changes of the functional team implementing an innovative project on the efficiency of the company. Questions. Hypotheses. Answers: Science of the XXI century, 2017, pp.56-93 (2017).
5. Stolyarenko O.V., Onischuk L.A. Appointment of personnel motivation companies and principles of its formation //Scientific-methodological electronic journal «Koncept», 2017. vol.3 (2017).

6. Voitushenko A., Bushuyev S. Development of project managers' creative potential: determination of components and results of research. *Advances in Intelligent Systems and Computing*. 2020. V. 1080 AISC. p. 283-292 (2020).
7. Stolyarenko A.V., Matyunina M.V. The encompassing analysis of the personnel motivation theories. *Servis v Rossii i za rubezhom* [Services in Russia and Abroad], 2017, vol. 11(3), pp. 42-51 (2017).
8. The PMBOK Guide. 6th ed. (2017) / Project Management Institute. A guide to the project management body of knowledge (PMBOK guide). Sixth edition. Newtown Square, PA. (2017).
9. Rezart D., Ylber B. Motivation, self-motivation and social media, important tools in market economy, The materials of the conference Humanities and social sciences in Europe: achievements and perspectives, 25 July 2020, Vienna, pp.62-65 (2020).
10. Stankova L. Development of a system for motivating project members, in Education, Law, Business. Collection of scientific articles. 2019, Madrid, pp. 28-31 (2019).
11. Stein E., Taskaeva N., Chibisova E. Methodological Aspects of the Creation of Information-and-technological Complexes Within the Investment Projects as a Factor of the Urban Territory Development// *Procedia Engineering*, 2016, vol. 165, pp. 1410-1416, 15th International Scientific Conference «Underground Urbanisation as a Prerequisite for Sustainable Development», ACUUS 2016; St.Petersbug; Russian Federation (2016).
12. Zvereva G.N. Motivational theories in establishments management systems// *Theoretical Economy*, 2018 vol.3 (45), pp. 121-126 (2018).
13. Akimova E.M., Stein E.M., Prokhorova Y.S. System analysis in the investment processes management and theoretical principles of the investments assessment // *Journal of Advanced Research in Law and Economics*, 2015, vol. 6, Issue 3, pp. 472-487 (2015).
14. Sherstiuk O., Kolesnikov O., Lukianov D. Team behaviour model as a tool for determining the project development trajectory. In *IEEE International Conference on Advanced Trends in Information Theory, ATIT 2019 - Proceedings*. pp. 496-500 (2019).
15. Zelentsov L.B., Mayilyan L.D., Shogenov M.S. Organizational and technological simulation of the construction organization activity in the complex infrastructure projects implementation, in *IOP Conference Series: Materials Science and Engineering*. International Scientific Conference «Construction and Architecture: Theory and Practice of Innovative Development» - Construction of Roads, Bridges, Tunnels and Airfields (2019).
16. Vroom V .H. Work and Motivation // N.Y. (1964).
17. Verstina N. Formation of tools of resource providing management at the enterprise of the industry of construction materials in modern conditions, in *MATEC Web of Conferences*. 2017. p. 08091 (2017).
18. Clark R., Bennedsen J., Rouvrais S., Kontio J., Heikkenen K., Georgsson F., Matthiasdottir A., Soemundsdottir I., Karhu M., Schrey-Niemennmaa K., Hermon P. Developing a robust self evaluation framework for active learning: the first stage of an erasmus+ project (qaemarketplace4hei). *Proceedings of the 43rd SEFI Annual Conference 2015 - Diversity in Engineering Education: An Opportunity to Face the New Trends of Engineering*, SEFI, 2015. 43, *Diversity in Engineering Education: An Opportunity to Face the New Trends of Engineering* (2015)