Development of the mechanism of motivation and tangible incentivisation

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Abstract. The main objective of the study is the development of an effective motivational mechanism for employees of construction enterprises. The paper considers particularities of remuneration of participants of construction process in order to define the application of various mechanisms of motivation and incentivisation. The existing methods of development of motivation and incentivisation are analyzed as a tool for increasing the performance of the enterprise. Scientific and methodological recommendations on the establishment and implementation of the mechanisms of motivation and incentivisation as a tool for increasing the performance of enterprises in the construction industry were developed. These recommendations allow identifying the relationship of motivation and incentivisation with the performance of the enterprise. The developed mechanism is based on the relationship between the strategic objective of the enterprise and the key performance indicators of the units or specific employees.

1 Introduction

It is possible to affect the economic efficiency of the enterprise as a whole and the indicators that depend on the quality of work of all participants in the production process using the proper leverage, namely various mechanisms of motivation and incentivisation [1].

This issue is particularly relevant for the construction industry because it is impossible to operate without interested construction workers and other participants in the construction process. However, the application of incentive mechanisms is mainly related to tangible goods, and, therefore, implies the emergence of costs. That’s why it should be taken into account that the effect, obtained from the used motivation mechanisms and imposed activities, should exceed the costs of their implementation.

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Fundamental changes in production can be achieved on the basis of the use of effective mechanisms of motivation and incentivisation, ensuring the rational use of resources available at the disposal of organization [2]. However, in the conditions of developing market relations and increasing competition, the use of only tangible incentive methods leads to the decrease in product competitiveness and dissatisfaction with the intangible needs of employees. The failure to take into account the intangible needs can lead to a decrease in the interest of employees in this work activity and, as a consequence, to deterioration in the quality of work and team atmosphere, and to the withdrawal of employees from the organization [3].

The process of establishing a mechanism is a labor-intensive process with a large number of sequential actions for preparation, development and implementation of the mechanism in the organization's employee management system [4].

### 2 Materials and methods

The main stages of the development of the mechanism of motivation and incentivisation (Figure 1):

1. Diagnostics of the existing system of motivation and incentivisation of employees;
2. Formulation of the objectives and principles of the organization's policy in the field of motivation and incentivisation of employees; determining the content and structure of the incentive system for employees;
3. Development of tangible monetary incentives (remuneration);
4. Development of a system of tangible non-monetary incentives (social package);
5. Development of a system of intangible non-monetary incentives;
6. Development of internal and normative documents that record the system of motivation and incentivisation of employees.

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1. Diagnostics of the existing system of motivation and incentivisation of employees

2. Formulation of the objectives and principles of the organization's policy in the field of motivation and incentivisation of employees; determining the content and structure of the incentive system for employees

1.1. Monitoring the state of the labor market and positioning of an organization

1.2. Diagnostics of existing in the organization methods, forms and elements of motivation and incentivisation

1.3. Diagnostics of motivation of organization’s employees

2.1. Analysis of organization’s employee management strategy

2.2. Description of the employee management strategy in the area of motivation and incentivisation

2.3. Formation of composition and structure of the motivation and incentive system for employees

3.1. Analysis of the structure of employees. Definition of levels of management and categories of employees

3.2. Description and analysis of workplaces (positions)
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Fig. 1. Stages of the development of the mechanism of motivation and incentivization.

The mechanism of motivation and incentivisation built on the basis of key performance indicators consists in analyzing the activities of all departments and each individual employee. This mechanism is used for setting specific objectives and values for which an employee will be able to receive certain benefits. When deciding on bonuses for each employee, it is necessary to take into account its effectiveness, personal contribution, quality of tasks performed and meeting of deadlines [5].

An employee of any unit who understands what he needs to do to obtain tangible and intangible benefits can significantly affect the performance of the enterprise. The system of formation of a variable part of the monetary reward based on KPI motivates the employee to achieve high individual results, as well as to increase his contribution to collective results and achievements, to accomplishment of the strategic objectives of the company. Development of key performance indicators, in its turn, is becoming a tool for introduction of the balanced scorecard that is popular in the modern management [6].

The balanced scorecard contributes to the improvement of the motivation system, since the objectives formulated for the employees affect their behavior. With proper selection of objectives (KPI), employees begin to understand their contribution to the achievement of the strategic objectives of the company, thereby increasing the probability of implementation of the developed strategy [7].

The specification of the company's strategy in the form of the balanced scorecard creates the basis for delivering the strategy to the employees of the company. The unified understanding of the company's strategy is achieved in the course of informing about
objectives. However, the very fact that strategic objectives were delivered to the employees does not mean that employees will strive to achieve strategic objectives. The interaction of the strategy means only that the risk of misunderstanding by the employees of the company's strategy and performance of actions contrary to the implementation of the strategy is reduced [8].

Several parameters should be taken into account during the development of the concept of a new motivation system. At the first stage of motivation system construction, the concept of a system for coordinating objectives with employees is created. On the basis of this, the second stage develops a system of remuneration related to the performance results. At the third stage, the process of agreement on objectives and remuneration, as well as documentation necessary for the process implementation, is being developed.

After the formation of the objectives, the amount of tangible incentives and the frequency of payments, it is necessary to think over a feedback system for employees to inform them about the accomplishment of the objectives. The changing of the key objectives for the units may be required by the end of the year [9].

When estimating the economic efficiency from the introduction of the motivation system, the labor cost index is used, as well as the performance indicator. In case of using such factors as the increase in production output and the change in the level of labor productivity as a general indicator of the activity of the employees of the enterprise, there is an influence of not only the factor of production, mobilized by motivation of employees, but also technical, technological and organizational factors. The result of the current year could be more influenced by the costs of past years than the costs of the current period. Therefore, it is difficult to uniquely estimate the influence of employee management on the economic effect of the work of an enterprise.

3 Results

Incentivisation is the most important method of influencing the employees. It encourages them to work for improvement of the performance of any organization. Indicators of quality, performance and complexity of labor are considered as organization’s performance indicators (Table 1).

Labor, characterized by a complex set of properties and connections between it, is the initial category in determination of the productivity of labor. There is an undisputed notion in the scientific literature that productivity of labor is defined as the fruitfulness of labor and as the ability to create a certain quantity of use values by one employee or per unit of time [10].

| №  | Indicator                                      | Method of calculation | Advantages                                                                 | Disadvantages                                      |
|----|-----------------------------------------------|-----------------------|---------------------------------------------------------------------------|----------------------------------------------------|
| 1  | Labor productivity (work output per 1 employee), rubles/person | The ratio of the output volume to the total number of employees involved in production | Characterizes a part of product per 1 employee and allows to judge the production potential of employees | Allows an overstatement of costs and the number of employees. Dynamics are not comparable under conditions of inflation |
| 2  | Ratio of growth rates of labor productivity and wages, % | The ratio of the increase in labor productivity to the increase in the | Allows to judge the positive development or negative ratio of growth rates | Shows only dynamics, not sources of tendencies. Depends |
In the view of existence of a number of specific features of the production organization, the issue of developing of a mechanism for motivation and incentivisation in the enterprises of the construction industry has always been and remains relevant [11].

4 Conclusions

Today, most of the mechanisms used at enterprises for motivation and incentivisation are obsoleted and ineffective. Generally, they don’t affect increasing the efficiency of the enterprise, and the tangible incentives is perceived by employees as an allowance in salary. Such a disregard for the mechanism of motivation and incentivisation leads to unnecessary expenses, low level of labor productivity, and inefficient production as a whole.

References

1. I.G. Lukmanova, A.G. Korolyov, E.V. Nezhnikova, Project Management, MGSU (2013)
2. E. Nezhnikova, Procedia Engineering **165**, 1300-1304 (2016) doi 10.1016/j.proeng.2016.11.854
3. N. Safronova, E. Nezhnikova, A. Kolhidov, MATEC Web of Conferences **106**, 08024 (2017) doi. 10.1051/matecconf/201710608024

| **Indicator** | **Calculation** | **Advantages** | **Disadvantages** |
|---------------|-----------------|----------------|------------------|
| 3 Frequency of workplace injuries, % | The ratio of the number of cases of workplace injuries to the total number of employees | Characterizes the state of occupational safety and health | Records only clear cases of workplace injuries. Depends on factors of production and compliance with the rules |
| 4 Wage fund (salary) | General fund of basic and additional wages, included in the cost of product | Allows controlling the size and proportion of wages in the cost of production. Is the basis for taxation | Depends on the size of the enterprise, commercial output and external factors (taxes, monopoly, headcount) |
| 5 Average salary of 1 employee, rubles/person | The ratio of the general wage fund to the total number of employees | Characterizes the level of wages and the dynamics of its change by periods of time | Depends on product prices, inflation and external factors |
| 6 Quality of work of employees, points or % | The first method - the ratio of the proportion of defects and claims to the total number of employees. The second method is an expert quality estimation at the board meeting on a scale from 1 to 5 | Applicable in the service departments. Allows connecting the work of employees with external quality estimation by consumers and customers. | Only a small part of the defects is recorded because of inefficiency and violations. Subjectivism of expert board members |

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4. A. Jones, G. Fallon, R. Golov, European Business Review 12(4) doi:10.1108/09555340010336871
5. M. Rafiei, H. Adeli, Structural Design of Tall and Special Buildings (2016)
6. A. Aminmansour, K. Moon, Journal of Architectural Engineering 16(2), 47-53 (2010)
7. P. Love, D. Edwards, Z. Irani, IEEE Transactions on Engineering Management 59(4), 6032087, 560-571 (2012)
8. E. Frolova, Sotsiologicheskie Issledovaniya 12, 51-58 (2014)
9. B. Semaan, J. Hemsley, ISCRAM 2015 Conference Proceedings - 12th International Conference on Information Systems for Crisis Response and Management, 321-328 (2015)
10. I. Ptuhina, T. Spiridonova, T. Musorina, Applied Mechanics and Materials 725-726, 153-159 (2015)
11. A.K. Orlov, MATEC Web of Conferences 106, 08013 (2017)