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Research paper

Personnel Labor Remuneration Innovative Systems Implementation for Construction Companies in Ukraine

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Abstract

The article is devoted to the personnel labor remuneration innovative systems implementation possibilities investigation for construction companies in Ukraine. Methodical proposals on the use of the Key performance indicator system for employee compensation systems at various levels of management, taking into account the construction business specifics have been developed.
Personnel remuneration effective system takes into account all the motivational components of achieving the goals, contributes to higher labor productivity as one of the key indicators for the construction company business strategy the successful implementation.
A significant contribution to the research and development of theoretical and practical aspects of the motivational systems formation and the search for ways to solve increasing personnel remuneration efficiency problems in various spheres of economy was made by scientists: R. Kaplan, D. Norton, M. Skibniewski, S. Ghosh, I. Gabcanova, H. Robinson, E. Meshcheryakova, P. Cardoso, S. Sushil, D. Ibrahimova, E. Pogrebnaya, D. Podgórski, A. Klochkov, A. Lapteva and others.
Improving motivational systems methodological aspects elaboration insufficiency in civil engineering requires study of using innovative forms possibilities for labor remuneration organization by business entities in the construction business of Ukraine.
The purpose of the study is the methodological recommendations formation on labor remuneration e organization for personnel construction companies in Ukraine based on the Key performance indicator for the effective motivational system formation.
Key Performance indicator system development and implementation, which is used in the developed countries of the world, including in construction companies, has all the prerequisites to become one of the directions for improving the personnel remuneration systems and motivation level. The construction industry of Ukraine can apply the latest developments in the field of HR management based on the proposed methodology. The process of mastering the KPI system is reduced to the sequential several stages implementation. Methodical recommendations using key indicators for the activity effectiveness for various organizational levels of the construction company are proposed. The author's motivation system formation methodology for the staff engaged in the construction business in Ukraine is developed.
Using the proposed methodological recommendations for business entities in the construction sector result in increasing human resources efficiency usage and companies competitiveness.

Keywords: *construction, innovative system, labor efficiency, motivation, personnel, productivity, wages.*

1. Introduction

The interest of the company's personnel in the final results of its activities is one of the predetermining moments for the successful chosen business strategy implementation and ensuring enterprise competitiveness in the market. This is especially relevant in the current conditions for the construction business development in Ukraine, which are inextricably linked to the innovation-investment and investment model of economic development adopted at the state level. The main requirement in the formation of an innovation-oriented revenue policy is not only the observance of social justice principles, but also the stimulating function income fulfillment from employment, giving the innovative component and activity results more significant weight [1, p. 283]. Today, an effective revenue policy in each company is one of the key conditions for successful business and personnel security based on staff motivation systems to achieve high economic performance.

In the construction industry, human resources importance in all business processes increases due to the increase in the level of intellectualization and the labor complexity. It stimulates social partner's convergence interests in achieving performance results. It should be noted that in Ukraine the existing payment mechanisms as the most significant element of personnel motivation systems have for the most part lost their efficiency, they do not fully reflect the real cost of labor in both construction business public and private sectors. The solution of many problematic issues in the sphere of social and labor relations depends on the development and implementation of innovative wage systems. It is necessitated the formation of methodological recommendations on the use of the best world practices in the policy of material personnel remuneration for construction companies in Ukraine.
Aspects of the formation and development of motivational systems in the management of human resources, the problematic issues of developing effective remuneration of company personnel, as well as applied aspects of the formation of models for as-

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sessing the efficiency of production and management are covered in the works of many well-known modern scholars.

As a result of theoretical and applied aspects development of strategic management, various balanced (strategic) models have been created to assess key performance factors. In particular, in the 90's. XX century theorists of modern systems of motivation R. Kaplan and D. Norton developed a model of the Balansed Score Card. In their work, they draw conclusions about the leading role of the Key per-formance indicator (KPI) system in achieving the required results [2].

Skibniewski, M. J. & Ghosh, S.O. (2009)[3] proposed to use a unified approach to determine the specifics for key performance indicators.

Robinson, H. S., Anumba, C. J., Carrillo, P. M., & Al-Ghassani, A. M. (2005)[4] developed practical recommendations on the use of efficiency measurement models in the practice of construction firms.

K. Chandrashekhar Iyer, Partha S. Banerjee (2016)[5] considered the effectiveness of management as a key factor for the successful implementation of projects.

Gabcanova, I. (2012)[6] proposed a map of the strategy and the corresponding KPIs in assessing human resources.

Farzana Asad Mir, Ashly H. Pinnington (2014)[7] have proved the importance of the influence of project management effectiveness factors on their success.

A study conducted by Meshcheryakova and Romanova (2015)[8] at an enterprise in the Republic of Belarus shows that the use of a system of key performance indicators raises staff motivation.

Cadrosso (2015)[9] argues that there is a need to improve the motivational factors, as well as the development and dissemination of clear rules that link productivity and pay rewards.

Sushil (2013)[10] proved that adoption of motivation strategies can improve the efficiency of the organization, increase the productivity and profitability of the company.

M. Franco-Santos, L. Lucianetti, M. Bourne (2012)[11] investigated the modern systems of measuring performance (the consequences of contemporary performance measurement).

Opportunities and prospects for the practical use of innovative for Ukraine motivational models and systems that have successfully proven themselves in construction companies in developed countries are not sufficiently represented in research conducted in Ukraine. In the conditions of the progressive development of the construction business in the country, companies are not engaged in the development and implementation of alternative systems of remuneration of personnel that would not repeat the shortcomings of existing ones. All innovative developments that owners and managers of construction companies in Ukraine today can use are presented in the form of a narrow range of commercial services of consulting companies. Insufficiency of working out of methodological aspects of perfection of systems of a payment in construction and adaptation

2. Problem Research

The variety of approaches to motivation systems development in general and systems of labour remuneration as their main element creates a complex situation for managers of personnel management services for construction enterprises in Ukraine. The success of methods to stimulate employees depends on the correctness of their choice and adaptation to the operating conditions of each construction company. This, in turn, directly affects the economic and financial performance of the enterprise. In the legal field of Ukraine, the tariff system for organization of labor remuneration is regulated. Other wage systems are not clearly defined by the law, but they are oriented towards an individual approach to setting the salary of employees depending on personal qualities, job complexity, professional qualifications, personal contribution to the results of work.

There is a danger that when copying someone else's experience without taking into account the specifics of running this business, the quality of personnel training, national and other traditions, negative results can be obtained.

The tasks of ensuring employees' interest in the final results of construction companies are a prerequisite for their successful functioning, development and strengthening of competitive positions in the market [12, p. 173].

For 2013 – 2017 in the construction industry of Ukraine there have been positive changes that created favorable prerequisites for the further development of this business along the innovative path. The results of the analysis show that with a decrease in the average number of employees, hired and full-time employees in the construction industry, there is an increase in the average wage (Fig. 1, 2).

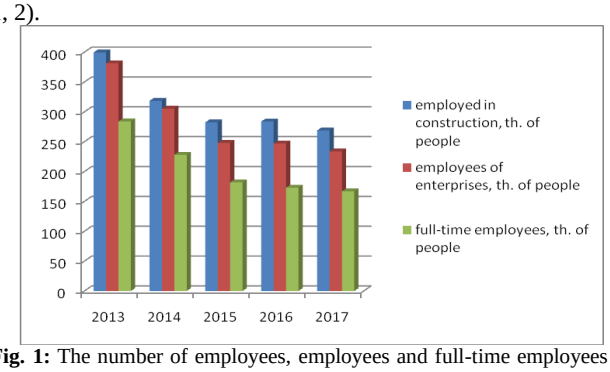


Fig. 1: The number of employees, employees and full-time employees of enterprises in construction in 2014 – 2017 in Ukraine

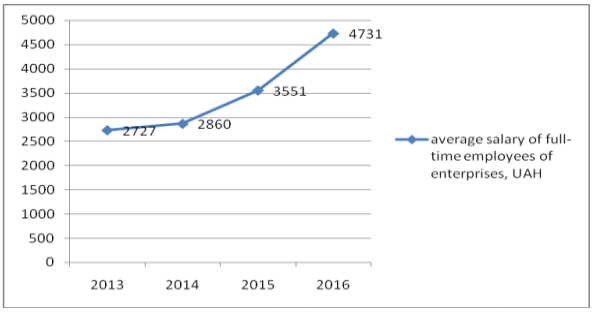


Fig. 2: Average monthly salary for full-time employees of construction companies in 2014 – 2017 in Ukraine

According to the Ministry of Economic Development and Trade of Ukraine in 2016, the construction industry experienced the highest growth in labor productivity from all types of economic activity – at the level of 14.6%. In 2017, the index of construction products in Ukraine compared with 2016 was 120.9% [13].

Thus, the development and implementation of the Key performance indicator system, which has been used in the developed world for a long time, including in construction companies, has all the prerequisites to become one of the directions of improving the personnel remuneration systems and the lever of motivation. The construction industry of Ukraine can apply the latest developments in the field of HR management on the basis of the proposed methodology. The very process of mastering the KPI system is reduced to the sequential realization of several stages. The implementation of the staff motivation system through KPI contains a significant reserve of reducing production costs.

The results of this research show that more than half of the top and middle managers are not satisfied with the existing methods of financial incentives and agree with the need to evaluate the results of their work on the indicators of the KPI system [14].

Construction companies have the ability to monitor and control the productivity of the work of the executors of production processes, as well as to assess the results of the performance of the planned indicators of management personnel.

The proposed set of KPIs should be tailored to specific conditions of an enterprise, such as the size, industry sector, types of occurring hazards, or the maturity of OSH management processes [15].

The goals of the KPI system development for the Ukrainian construction company:

1) Ensuring control over current and long-term performance indicators of the enterprise;
2) Evaluation of the personal effectiveness of each employee, department and company as a whole;
3) Staff orientation to achieve the planned results;
4) Managing labor costs and reducing time to calculate the budget of costs.
Primary requirements:
a) Each indicator should be clearly defined;
b) Indicators and standards should be achievable: the goal must be realistic, but at the same time be a stimulus;
c) The indicator should be in the sphere of responsibility of those people who are being evaluated;
d) The indicator should have meaning;
e) The indicators can be common for the whole company and specific for each unit.
Stages of developing a pay system based on KPI:
1. Determine the list of positions or positions in the structure of the construction company for which this motivation scheme will be applied. In this case, KRI must correspond to the level of management. The given organizational level is the personnel of a certain department (level), for which it is necessary to reach a goal and accomplish the tasks (plan / fact) for a certain period. We recommend dividing the company's personnel into the following levels:
A) Level "leader" (business owner).
B) Level of "management" (heads of departments).
C) Level of "line staff".
D) The level of "ordinary personnel".
2. Key indicators are determined for each position (Table 1).
To determine the degree of influence of each of the selected KPIs on the variable part of wages, the specific weight (share) of each of them is determined.
3. The procedure for calculating the indicators is determined.
4. The range of percent of the indicator's performance, the value of the indicator's coefficient and its content is determined (Table 2).
5. A motivational formula is formed for the calculations. The ratio of a fixed part of wages, a variable part and a bonus is determined. The constant part of the remuneration can be represented by the base salary, piece earnings, time-based payment at hourly rates, and also with the use of grading – the system of official ranks (classes), which is based on the importance of this position (profession) in terms of the complexity of the work and professional competencies. The variable part of the employee's remuneration should have a linkage of his motivation to the results of activity through KPI.
The use of grading contributes to an increase in the effectiveness of management of labor costs.
The relationship between the constant and the variable parts differs depending on the position of the employee and membership of a particular business unit or business process. So for the main business processes the ratio can be 30/70, for auxiliary – 50/50, for managerial – 70/30 [16, p. 52].
6. Determine the formula for calculating the variable part of the pay.
Calculation of the variable part of wages may look like:

$$PF = PFpl \cdot (W_{KPI1} \cdot KKPI_1 + W_{KPI2} \cdot KKPI_2 + W_{KPI3} \cdot KKPI_3) \quad (1)$$

where PFpl - the planned sum of a variable part of wages;
W_{KPIi} – are the proportion (share) of KPI;
$KKPI_i$ – are the coefficients of KPI [17, p. 220].

Here is an example of calculating the variable part of the reward for one of the proposed organizational levels (Table 3).
Thus, since the plan is fulfilled by 110%, according to Table 1, the sum of the variable portion of wages will be increased by 20%.
7. Verification: calculation of possible salary options for all possible KPI values, depending on the

Table 1: Key performance indicators for different organizational levels of the construction company

Index	Weight (degree of influence)
Engineer of the Production and Technical Department	
Drawing up of acts for hidden works on the construction site, preparation and completion of the executive documentation	0,2
Drawing up information documents for tracking the amount of work performed	0,2
Coordination and signing of the executive documentation at the customer's request	0,2
Calculation of the scope of work for the facility, compilation of consolidated statements	0,2
Interaction with adjacent departments, designers, customers of works on the object	0,1
Performing discipline	0,1
Total	1,0
Head of construction site	
Management of production and economic activities at the construction site	0,25
Organization of work of subordinate units, production meetings and working meetings	0,25
Organization of work of the linear personnel (manufacturers of works)	0,15
Registration of acts for hidden and additional work	0,15
Control over compliance with safety regulations, occupational safety standards, sanitary and other standards	0,1
Performing discipline	0,1
Total	1,0
Construction worker	
Overfulfillment of labor productivity standards, rational use of working time	0,4
Saving of material and energy resources	0,2
Compliance with occupational safety and health standards	0,1
Improving the quality of work	0,1
Work discipline	0,1
Initiative to improve methods and methods of work	0,1
Total	1,0

Table 2: Percentage of key indicator performance and its ratio

Percentage of indicator achievement	Coefficient	The meaning of the coefficient
Implementation of the plan is less than 60%	0	Invalid
Implementation of the plan 61-79%	0,5	Low level
Implementation of the plan 80-90%	0,7	Average level
Implementation of the plan at 91-100%	1	Achieving the target value (implementation of the plan)
Implementation of the plan 101-120%	1,2	Leadership
Implementation of the plan is more than 120%	1.5 or 1 (at the discretion of the company's management, the value may be limited)	Aggressive leadership or management of the implementation of the plan

8. Determine KPI for the whole construction company. Their values can be used to determine the bonus part of payments based on the performance of the enterprise for a certain period. It is recommended to consider such indicators:

Table 3: Calculation of the variable part of the remuneration of the post of level B "Engineer of the production and technical department"

KPI	Share of KPI	Purpose / (plan)	Performance (fact)	Index KPI
A	B	C	D	E = B*D/C
1	0,2	20%	22%	0,22
2	0,2	30%	27%	0,18

3	0,2	20%	30%	0,3
4	0,2	10%	10%	0,2
5	0,1	10%	8%	0,08
6	0,1	10%	12%	0,12
Result	1,0			1,1 (110%)

– KPI $^{к}_{1}$ – the percentage increase in the volume of work performed;
– KPI $^{к}_{2}$ - percentage reduction in the cost of construction and installation work;
– KPI $^{к}_{3}$ – the percentage increase in profit (profitability) of the company;
– KPI $^{к}_{4}$ – percentage increase in the level of labor productivity per 1 employee.
Next, determine the coefficients for each indicator**.**
Based on the results of the development of a pay system using KRI, we recommend creating a document "Matrix KRI" for each organizational level of the enterprise, agreeing it with all social partners and approving it with an appropriate order for the company, as well as making changes to the collective agreement, subject to its conclusion,
Sources of formation of variable part of remuneration:
– profit of the company;
– saving of the payroll;
– saving of circulating assets, raw materials and materials, energy resources.
Correctly selected system of salary formation of personnel at each level of a construction company using KPI must take into account all the features of production and labor processes and tasks that each worker or his workplace, profession, qualification, personal interests face. Thus, this system acts as a motivational factor and at the same time a tool for organizing the company's activities.
It is recommended to periodically evaluate the effectiveness of this system after its operation, first in the test mode (1 – 3 months), then for a certain control period (1 – 2 years). Based on the results of the assessment, corrections are possible, since certain changes may occur in the company both for strategic purposes and for business processes. Each key indicator should be relevant for a given period of time and is confirmed by data on its impact on staff motivation.
The tried and tested system should be automated with the help of modern IT technologies and integrated into business processes.
Building a KPI system can be entrusted to a separate HR manager or specialist who develops the company's strategy with the involvement of the HR department.
Provided that KPI goals and indicators are developed directly by the heads of departments in accordance with the target management system in business, the implementation period is maximally reduced and efficiency is increased [16, p. 57].
When using the services of a consulting firm, the costs of developing and implementing an innovative pay system in the company are increased, but in the absence of opportunities and time, and the desire to direct professional business consultants to the process, the choice can be made in favor of external experts.
It should be noted that the organization of labor remuneration in the company occupies a very important place in innovative transformations, since motivated staff always supports changes aimed at increasing the competitiveness of this business. For employees, the KRI–based payment mechanism is designed to align their goals with the company's goals.
Author's method of forming a motivational system for a construction company can be applied to all business entities in the sphere of this business (Figure 3).

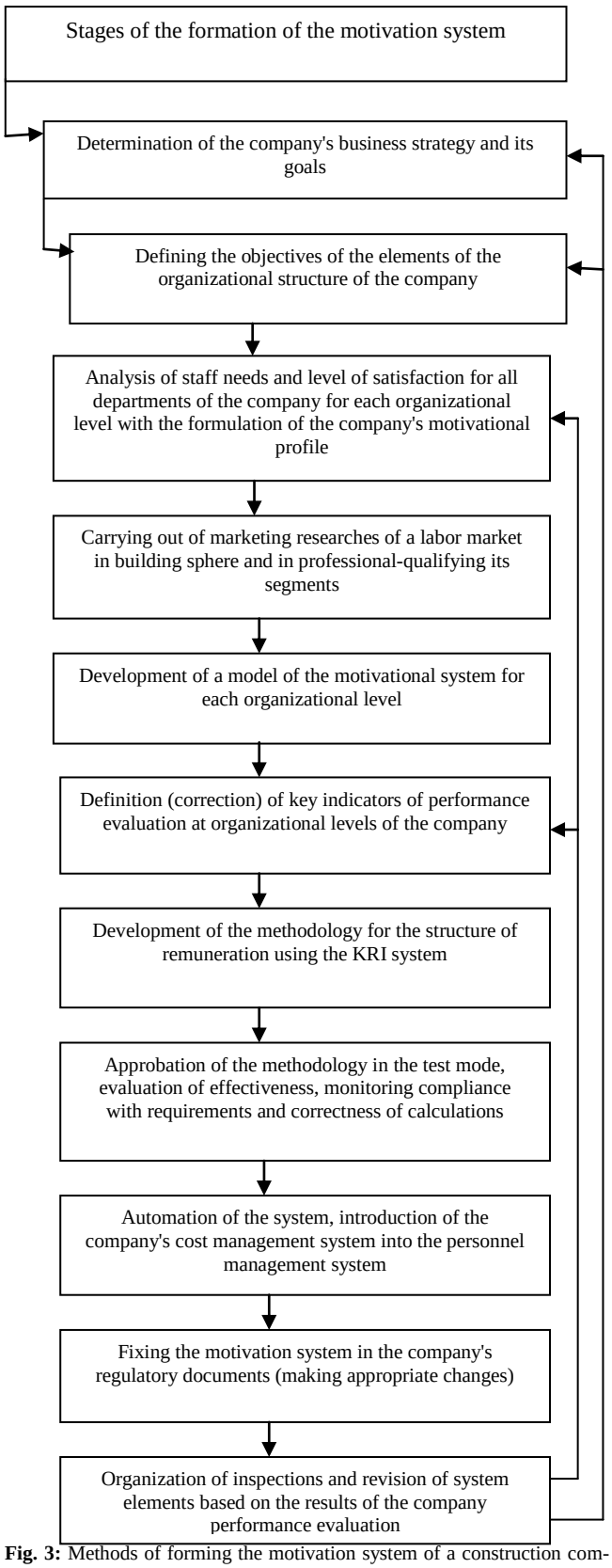


Fig. 3: Methods of forming the motivation system of a construction company

When developing a constant part of the basic salary, both the tarification of work and the grading system can remain.
The permanent part assesses the potential of the employee and is a conditionally stable payment guaranteed by the labor legislation of Ukraine. The variable part should be an effective mechanism for increasing labor productivity.

3. Conclusion

As a result of the research, the methodology of development and the system for calculating the salaries of construction company personnel was proposed, which is based on the use of the Key Performance indicator. The prerequisites for the introduction of this innovative system for the organization of labor remuneration at various organizational levels in the construction business in Ukraine are considered. A technique for constructing a motivation system for business entities in the construction industry is proposed.

The obtained results can be used as a methodological tool for the formation of innovative models of building business that are based on the principles of social responsibility, as well as to improve labor productivity and efficiency of using human resources employed in the construction industry in Ukraine and for its outside.

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