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## PECULIARITIES OF EVALUATING THE LABOR MOTIVATION LEVEL OF HEAVY INDUSTRY MANUFACTURING ENTERPRISE PERSONNEL

*The article suggest an approach to determining the labor motivation level of personnel and the major ways of labor motivation methods' enhancement within the human resources management system that shall enable a better labor potential use at a heavy industry manufacturing enterprise. The overall research outcome is the shift in judgment regarding the determination of organizational and motivational aspects' correlation within the human resources management system from perceiving it as an uncontrollable phenomenon to the one subject to the aims of an enterprise and regulations.*

**Keywords:** labor motivation; human resources management system; motivational component; labor motivation level evaluation; motivational tools.

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## ОСОБЛИВОСТІ ВИЗНАЧЕННЯ РІВНЯ МОТИВАЦІЇ ПРАЦІ ПЕРСОНАЛУ МАШИНОБУДІВНИХ ПІДПРИЄМСТВ

*У статті запропоновано підхід до визначення рівня мотивації праці персоналу та виявлення основних напрямів вдосконалення методів мотивації праці в системі управління персоналом, що дозволить краще використовувати трудовий потенціал машинобудівного підприємства. Загальним результатом досліджень і наведених розробок є зміна погляду на встановлення співвідношення організаційної та мотиваційної складових в системі управління персоналом з випадкового некерованого явища на таке, що підпорядковується цілям підприємства та підлягає регулюванню.*

**Ключові слова:** мотивація праці; система управління персоналом; мотиваційна складова; оцінка рівня мотивації праці; інструменти мотивації.

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## ОСОБЕННОСТИ ОПРЕДЕЛЕНИЯ УРОВНЯ МОТИВАЦИИ ТРУДА ПЕРСОНАЛА МАШИНОСТРОИТЕЛЬНЫХ ПРЕДПРИЯТИЙ

*В статье предложено подход к определению уровня мотивации труда персонала и выявлению основных направлений улучшения методов мотивации труда в системе управления персоналом, что позволит лучше использовать трудовой потенциал машиностроительного предприятия. Общим результатом исследования и приведенных разработок является изменение взгляда на введение соотношений организационной и мотивационной составляющей в системе управления персоналом от случайного неконтролируемого явления на такое, что подчиняется целям предприятия и подлежит регулированию.*

**Ключевые слова:** мотивация труда; система управления персоналом; мотивационная составляющая; оценка уровня мотивации труда; инструменты мотивации.

**Problem statement.** Elaborating the approaches to evaluating the labor motivation level and determining the efficiency of management impact that aim to increase the labor motivation level of personnel should become the logical stage in the development of knowledge about labor motivation processes within the heavy industry manufacturing enterprise management system. The problem of evaluating the level of motivation among employees remains under-researched. Implementing the results of

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the research on labor motivation processes into practice shall enable better utilization of industrial enterprise labor potential including labor relations potential and obtaining a tool that contributes to effective decision-making.

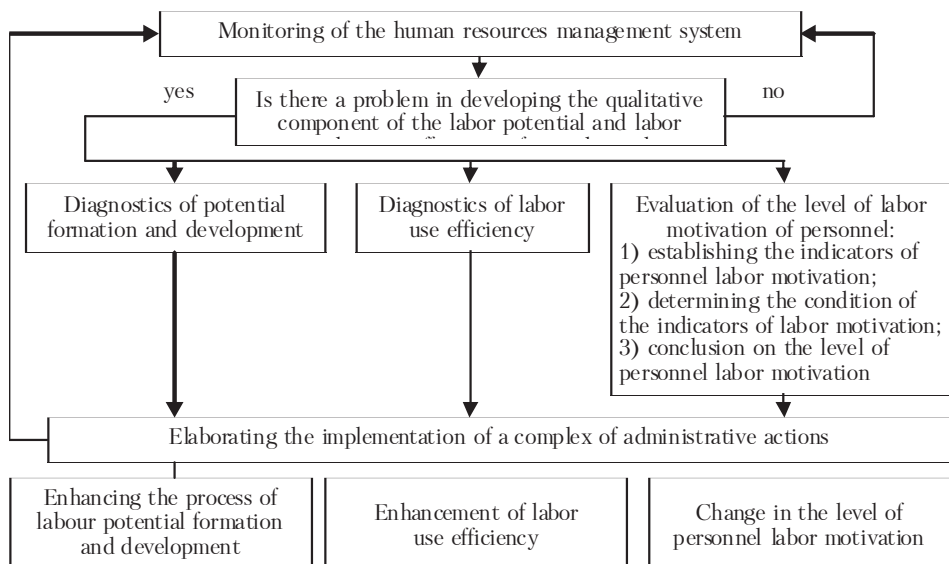
**Latest research and publications analysis.** Theoretical and practical aspects of defining the labor motivation level of enterprise personnel are reflected in a number of scientific works of economists. The following Ukrainian academics have devoted their publications to the matter of exploring the level of labor motivation: M.S. Doronina, K.G. Naumik and O.V. Solovyov (2006), A.M. Kolot (2002), G.T. Kulikov (2006), M.V. Semikina (2004), O.O. Handiy (2010) and others. The works of foreign scholars on this matter have been pointed out in the previous studies of the author (Homenko, 2011: 102): P.F. Drucker (2001), E.P. Ilyin (2008), A.P. Yegorshin (2003), F. Lemin (2009), O.A. Mitrofanova (2008) and others who have studied the peculiarities of labor motivation level of enterprise personnel. It should be noted that the problem of researching the level of motivation among employees remains insufficiently studied. Scientific works on human resources management lack the unified approach to the motivational component in the performance of industrial manufacturing enterprise personnel team.

**The research objective** is defining the labor motivation level, identifying the share of motivational component within the performance of an industrial manufacturing enterprise personnel and eliciting its problem elements which shall enable effective amplification or mitigation of motivational processes' intensity by executing a managerial impact.

**Key research findings.** In order to characterize the level of personnel labor motivation an integral index of an enterprise's long-term perspective human resources utilization is introduced – the index of labor motivation level of personnel (M). The purpose of determining the labor motivation level is the diagnostics of the share of the motivational component within the performance of a team, eliciting its problem elements and providing the administration of an industrial manufacturing enterprise with the information that allows an effective increase or reduction of the intensity of motivational processes by executing a managerial impact. The suggested procedure for conducting the evaluation of labor motivation level into the human resources management system is represented in Figure 1.

The first stage implies the selection and systematization of single indicators – the indicators revealing the state of labor motivation of enterprise personnel. The number of evaluated indicators is influenced by the enterprise business environment, the specifics of technological processes and the intensity of the investigated matter.

The evaluation is performed by the experts who may be managers of different levels, specialists, workers of production divisions which possess the sufficient level of competences and experience, necessarily including the specialists and executives of economic branches of an enterprise. While examining the motivation processes in separate structural divisions it is advised to form expert groups consisting of the members of the following teams – chief executives in line with specialists and workers. Peer review of the labor motivation level is conducted by filling out social spreadsheets. Out of the proposed options of labor motivation indicators' list the expert chooses one feature.



**Figure 1. Evaluation of the labor motivation level as a component of an industrial manufacturing enterprise's HR management system monitoring, developed by the author**

First, the evaluation of each of the indicators' conditions is being generalized after the subgroups of experts (senior level managers, middle level managers, lower level managers, specialists, workers of production divisions) (calculation is performed according to formula 1); second, the evaluation after each of the indicator conditions is being generalized on the basis of the subgroup results (calculation is performed according to formula 2); third, the evaluation of labor motivation level is being generalized on the basis of each of the functional groups ( $M_i$ ) (calculated according to formula 3). The closer the results obtained ( $M_i$ ) are to 2, the higher is the level of motivation of an examined team. If the values of the average group indicators is closer to 0, then personnel motivation is practically absent. The calculations are performed according to the formulas (systematized by the author on the basis of (Doronina et al., 2006: 125–128; Handy, 2010: 158–160):

$$b_{ijk} = \frac{\sum_{n=1}^{N_k} b_{ijkn}}{N_k}, \quad (1)$$

where  $b_{ijk}$  – the evaluation of the conditions of  $j$  indicator of  $i$  functional group by the  $k$  expert group, points;  $b_{ijkn}$  – the evaluation of the conditions of  $j$  indicator of  $i$  functional group by the  $n$  expert of the  $k$  expert subgroup, points;  $N_k$  – the number of experts in  $k$  subgroup;

$$M_{ij} = \frac{\sum_{k=1}^K b_{ijk}}{K}, \quad (2)$$

where  $M_{ij}$  – the evaluation of the conditions of  $j$  indicator of  $i$  functional group, points;  $K$  – the number of expert subgroups;

$$M_i = \frac{\sum_{j=1}^J b_{ij}}{J}, \quad (3)$$

where  $M_i$  – the evaluation of the motivation level according to  $i$  functional group;  $J$  – the number of indicators in  $i$  functional subgroup.

The value of the calculated data is affected by a significant amount of factors, the key of them are: the area of business of an industrial manufacturing enterprise (design, services sector etc.), the level of work substitution, the level of labor automation, the ratio of workers to executives, gender and age, professional competence and other labor specifications including individual qualification indicators. The next stage defines the index of labor motivation level ( $M$ ) as a sum of average values of motivation level evaluations ( $M_i$ ) of functional groups:

$$M = \sum_{i=1}^I M_i, \quad (4)$$

where  $I$  – the number of functional groups (the given method implies  $I = 5$ ).

In order to characterize the value  $M$  obtained, the maximum and minimum possible values of the integral indicator must be determined. The maximum value of the indicator equals 10, the minimum is 0. The zero value of the index of labor motivation defines creative, socially-oriented organic structures. Obtaining an average position of the  $M$  index after calculations and wishing to boost the labor motivation of personnel, guided by the goals and financial, administrative and informational abilities, executives make decisions about motivation enhancement within the HR management system by implementing novel labor motivation tools.

Comparison of the performance outcomes and the indicators of the labor motivation levels of the same type of teams and enterprises in practice enables determining the way to enhance the methods for labor motivation and HR management and eliciting the level of influence of tools for labor motivation on labor utilization efficiency.

The influence of the motivation level increase on labor efficiency is ambiguous as it represents itself as a mechanism for the synergy effect, the value of which may vary depending on the reciprocity of employees and appear bigger or smaller than the sum of their results during independent individual performance.

After having conducted an experiment of altering administrative relations and having studied the organization's behavior, Y.D. Krasovskiy (2003) proposes to consecutively introduce the tools for labor motivation into practice, thus establishing effective feedback, power delegation, conversion from bureaucratic to a democratic form. Subsequently, innovative leadership shall result in forming a solid team of employees on the basis of professional growth and the corresponding enhancement of work performance. Hence, it may be stated that the consistent implementation of labor motivation tools characterizes the progressive process of shaping the model of labor motivation for a specific working team.

**Conclusions.** The increase in the level of freedom in decision-making among personnel shall result in the mitigation of entrepreneurial structure and the diminution of team controllability. Since the prime goal of the increase of the motivation level through implementation of adequate tools is to achieve the increase of economic and social efficiency, it is essential to choose a specific set of tools for labor motivation individually

for each of industrial manufacturing enterprise or a personnel team and to evaluate the influence of new methods of labor motivation and management on the performance of personnel. In the case of contravention of existing cooperation between colleagues, the emergence of destructive conflict situations and the recession of performance efficiency indicators the chief executives are ought to revise labor management tools.

The scientific novelty of the results obtained is represented by an enhancement of a methodical approach to evaluating the level of labor motivation of heavy industry manufacturing plant personnel, which shall help in choosing a specific set of tools for labor motivation and to evaluate the impact level of novel labor motivation and management methods implementation on personnel performance. The practical value of the research is represented by the statement that in the case of contravention of existing cooperation between colleagues, the emergence of destructive conflict situations and the recession of performance efficiency indicators chief executives need to revise labor management tools.

The methodical approach proposed in the article allows determining the labor motivation level of personnel, enables eliciting the major trends in labor motivation and management enhancement, including team development and use of labor relations potential. Functioning of the system of strategic actions for regulating the labor motivation level needs to be further researched on the basis of the evaluation of labor motivation level at heavy industry manufacturing enterprises.

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