

Satisfaction evaluation with intellectual motivation system of industrial companies employees in Russia

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Abstract. Motivation system of knowledge workers is the most important factor of competitiveness of the modern company. That is why satisfaction evaluation with intellectual labor motivation system plays an important role in the management of staff. Since industrial enterprises operate in a competitive environment it is important to pay attention to the development of intellectual capital for innovative development in these enterprises. The article describes a method to evaluate satisfaction with the system of intellectual motivation of employees. This method was tested on nine Russian industrial companies. Direct relationship between cost-effectiveness of these companies and index of satisfaction with intellectual labor motivation system has been revealed. This dependence indicates a high level of influence of intellectual capital on the economic effect of company.

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Introduction

Russian industrial companies operate in the context of globalization and fierce competition for over 20 years. Motivation system becomes the main factor of competitiveness of industrial companies in these conditions. Motivation of staff should be focused on the development and disclosure of intellectual capital of the company. Intellectual capital promotes the disclosure of innovative capacity of the company exactly. Innovative capacity is needed to create and introduce innovations in industrial companies. Thus, effective intellectual motivation system of employees allows industry of developing technologically.

Motivation of staff is the most important factor of economic growth in modern conditions. However, there are a few works devoted to the technique of measurement and analysis of company's employee motivation. As you know, you can only manage what you can measure [1].

Evaluation of the impact of the satisfaction with intellectual motivation system of employees on economic efficiency of industrial enterprises is the objective of this study.

Theory

Many Russian and foreign researchers consider questions of motivation of staff within the company's management [2-4]. However, the importance of intellectual motivation of employees for the innovative development has affected a number of studies in this area [5-9]. Research of innovation capacity of company and factors affecting on it suggest that the system of intellectual motivation of employees plays an important role in company's management system [10-11]. A few of scientific

studies have been devoted to the problem of satisfaction evaluation with intellectual motivation system of employees of company.

Satisfaction evaluation with intellectual motivation system of industrial companies employees in Russia will help determine the impact of satisfaction on the economic effect of company.

Methodology

The paper describes a method to evaluate satisfaction with the motivation system of intellectual labor, including survey of knowledge workers, the method of calculating the scoring results, the method of visualization of building evaluation results. Table 1 shows the graduation of satisfaction evaluation of intellectual labor motivation system within the proposed methodology.

Table 1. The graduation of satisfaction evaluation of intellectual labor motivation system

Number of points	Satisfaction evaluation of intellectual labor stimulating
below 5	Ineffective
5–6	Conditionally effective
6–8	Mainly effective
8–9	Effective
10	Absolutely effective

As part of the methodology management system of intellectual labor has four elements: resource, base, process and result [12]. The proposed methodology of satisfaction evaluation of intellectual labor motivation system of employees demonstrates contribution to the formation of the final result of intellectual labor of each elements, identifies problem areas in the system of motivation of intellectual labor,

determines the level of effectiveness of the intellectual motivation of employees in the enterprise.

Statistical base

Satisfaction evaluation with intellectual motivation system of employees was used in nine industrial enterprises of Russia: company of the cable industry (3,000 employees); LLC "Decor-Center" (constructing, 40 employees); electricity company (100 employees); two of the military industry (200 and 40 employees); JSC "Aircraft Engine" (245 employees); JSC "Russian Railways" (electric shop, 50 employees); machine tool company (200 employees); JSC "Polyex" (100 employees). Existing systems of motivation of Russian industrial enterprises have been analyzed in the article. Monetary form of motivation represented salary and bonus. The bonus is the size of the salary. Bonus payment is not curled the results of labor, it does not allow to use it as a stimulating component of the motivation. Average wage of engineers in companies is at 515 euros, which is below the average wage in Russia. According to the Federal Service for Labour and Employment on June 6, 2014 the average salary in Russia amounted to 644.381 euros [13]. Corporate events in companies are held once a year (New Year celebrations) with the presentation of gifts to the most distinguished employees. Social programs in companies lacking. Accordingly, natural and organizational forms of motivation, career used inefficiently, there are also problems with the monetary reward of labor.

Results and discussion

Through questionnaires of employees satisfaction of enterprises motivation system of intellectual work in intellectual work management system was found in Russian industrial enterprises (See Tab 2).

In companies such as electricity company, the company of military industry "Beta", the machine tool company, the lowest level of satisfaction of the motivation system of intellectual labor has been identified. The best result of satisfaction of motivation system of intellectual work was installed in the military industry company "Alpha". Based on evaluation of the system of intellectual motivation of employees of Russian industrial enterprises, it can be concluded on the need to improve the management system elements of the "Resource" and "Base". System element of the "Resource" showed the lowest level of efficiency - 6.22, the "Basic" - 6.58 and stage "Result" - 7.12. In general mainly effective system of intellectual

employee motivation exists in enterprises - 6.82 points.

Table 2. Satisfaction evaluation of intellectual labor motivation system of Russian industrial companies employees

Company name	Element intellectual labor management system				Satisfaction of motivation system of intellectual labor
	Resource	Base	Process	Result	
Company of the cable industry (3,000 employees)	7,00	7,81	8,64	8,18	7,81
Electricity company (100 employees)	4,07	5,03	5,45	5,59	5,03
Military industry company "Alpha" (200 employees)	7,21	8,22	9,18	8,18	8,22
Military industry company "Beta" (40 employees)	5,21	5,72	6,95	5,66	5,72
JSC "Aircraft Engine" (245 employees)	5,89	7,27	7,95	7,82	7,27
JSC "Russian Railways" (electric shop, 50 employees)	6,21	6,41	5,64	6,64	6,41
Machine tool company (200 employees)	5,50	4,96	5,91	5,14	4,96
JSC "Polyex" (100 employees)	6,85	7,18	7,00	7,55	7,18
LLC "Decor-Center" (40 employees)	6,30	7,10	7,90	7,50	7,10
Average index	6,22	6,58	7,35	7,12	6,82

To improve the conditions for the realization of the intellectual potential of employees need to need to promote the unification of employees to meet the challenges of the enterprise at the initiative of the company's employees and to improve the clarity and understandability of tasks. To improve the system of motivation in the company study recommends to define powers and control system of employees and managers more clearly in regulatory documents, to use a server to demonstrate success in work (from the customer review), to structure information on the server, to provoke the exchange of information among employees [5].

Based on these results and graduation of satisfaction evaluation with intellectual labor motivation system (Tab. 1) we can conclude on the effectiveness of intellectual motivation of Russian industrial companies employees (see Tab. 3).

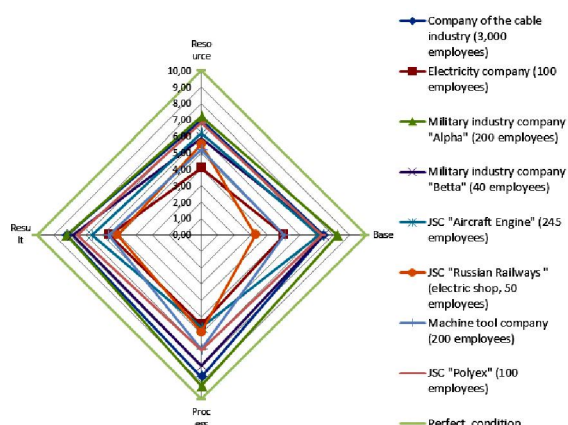
Evaluation of efficiency of intellectual motivation system of Russian industrial companies allowed to establish that the machine tool company has ineffective motivation system; electricity company military industry company "Beta" have conditionally effective motivation system; company of the cable industry, JSC "Aircraft Engine", JSC "Russian Railways", JSC "Polyex", LLC "Decor-Center" have mainly effective motivation system; military industry company "Alpha" has effective motivation system.

Table 3 .Evaluation of efficiency of motivation system of intellectual labor of Russian industrial companies employees

Company name	Satisfaction of motivation system of intellectual labor	Evaluation of efficiency
Company of the cable industry (3,000 employees)	7,81	Mainly effective
Electricity company (100 employees)	5,03	Conditionally effective
Military industry company "Alpha" (200 employees)	8,22	Effective
Military industry company "Beta" (40 employees)	5,72	Conditionally effective
JSC "Aircraft Engine" (245 employees)	7,27	Mainly effective
JSC "Russian Railways " (electric shop, 50 employees)	6,41	Mainly effective
Machine tool company (200 employees)	4,96	Ineffective
JSC "Polyex" (100 employees)	7,18	Mainly effective
LLC "Decor-Center" (40 employees)	7,10	Mainly effective

We can visualize the evaluation of intellectual labor motivation of Russian industrial companies on the basis of a model of satisfaction evaluation with system of intellectual motivation of Russian industrial companies employees, containing four elements: resource, base, process and result (see pic. 1).

Overall, the evaluation of motivation system of intellectual labor of Russian industrial companies located in the small scatter of the mean value. Visual evaluation of intellectual motivation of employees suggests sufficient attention of companies to establish control system elements «Process» and «Result» and insufficient attention of companies to establish control system elements «Resource» и «Base». This model reveals trends in the motivation system of intellectual labor sector.

**Picture 1. The evaluation of intellectual labor motivation of industrial companies**

Cost-effectiveness index adopted as indicator of economic efficiency. The survey identified cost-effectiveness of all tested industrial companies. Cost-effectiveness of industrial companies was determined in the range from 12% to 40%.

Low level of cost-effectiveness is observed in companies with the ineffective and conditionally effective motivation system and vice versa, companies with the mainly effective and effective motivation systems shows the highest levels of cost-effectiveness in branch.

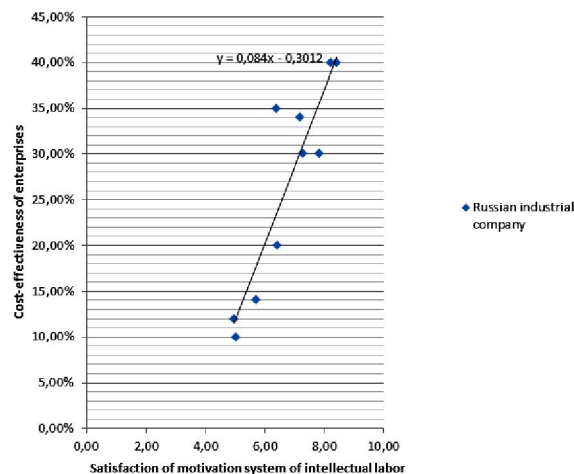
Influence of satisfaction with motivation system on cost-effectiveness of Russian industrial companies confirmed graphically (See Pic. 2).

Building a trend line suggests a direct relationship between the level of profitability and the level of satisfaction with motivation system of intellectual labor.

The relationship between cost-effectiveness and satisfaction with motivation system of intellectual labor of industrial employees may be determined by the formula 1.

$$P = 0,084E - 0,3012, \quad (2)$$

where P — cost-effectiveness of company, E — satisfaction with intellectual labor motivation system.



Picture 2. Influence of satisfaction with motivation system on indicator of economic efficiency of intellectual capital of enterprises

Conclusions

This revealed dependence allows more convincingly demonstrate the need to improve the motivation of intellectual labor to improve the efficiency of production of industrial companies.

The statistical analysis of enterprises allowed to conclude cost-effectiveness of the enterprise depends on the satisfaction with the intellectual labor motivation system.

The proposed model of the effectiveness of intellectual labor motivation system allows the analysis of motivation system, to detect reserves of the increase of effective use of the intellectual capital of the company's employees. Proposed parameters of the economic efficiency of intellectual activity allow the identification of the impact of intellectual labor in the company. These indicators can also be used as a tool for human resource management. Systematic approach to establishing a motivation system will increase the impact of the implementation of the intellectual potential of employees. Application of the method of evaluation of efficiency of intellectual labor motivation system of industrial companies employers suggests the applicability of this technique in the management of intellectual labor in modern conditions.

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