EMPLOYEES COMPETITIVENESS ASSESSMENT ON INTERNAL AND EXTERNAL LABOUR MARKETS

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This paper presents an overview of foreign and domestic research to the approaches of employees assessment in terms of their competitiveness. Based on the experience of large industrial enterprises the dominant elements that form employee competitiveness were determined. A different methodology that takes into account the impact of economic globalization was given. Its validity is based on mathematical calculations and use of software.

Keywords: *employees competitiveness (CPT); economic globalization; assessment; labour market.*

Introduction

In the process of workers' formation and development it is necessary to understand, what is formed and what is developed, what level this or that element has and what level it should have to make a worker be competitive.

In the internal labor market workers assessment allows enterprises to reveal employees strengths and weaknesses. According to the assessment results some recommendations to improve the quality and increase the employees competitiveness and goods/services can be offered.

It's assumed that various authors have their own opinion in considering the assessment of employees competitiveness (CPT). Therefore, we have identified and grouped into common approaches these definitions in chronological order.

1) 1996–2007 – labour force quality (N. Lyapkina, E. Bogdanova, L. Ivanovskaya and N. Suslova, L. Milyaeva, E. Saruhanov and S. Sotnikov, R. Fatkhutdinov);

2) 2002–2008 – the level of employees competitiveness (P. Kravtsevich, E. Galuzo, Soldatos G.);

3) 2006–2010 – systematic approach (S. Sotnikov, N. Romashkin);

4) 2010 – goal-setting in the enterprise management (E. Andrianova);

5) 2013–2015 – situational approach (T. Ismailova (Terehova) [1].

These approaches, having their evolution, were closely associated with the approaches in management as it's seen from chronological order.

These approaches may be applied at national, regional and enterprise level, because they allow to assess the efficiency of competitiveness management and the degree of implementation of the strategy for the competitiveness management. However, the performance criteria, i.e. maximum achieved with the help of competitiveness, should be defined in the program strategy.

We believe that the level of employees competitiveness, as a specific value of the competitiveness elements, can have a different demand on the internal or external labour markets, i.e. the level of competitiveness of a particular employee may be sufficient in the domestic labour market and not in demand on the external one.

We consider that the level of employees competitiveness should be understood as specific characteristics and requirements of external or internal market for it in terms of competitiveness.

The experiment

They are employers' representatives who, in a greater degree, evaluate employees competitiveness. In this case the main market motivators of employees competitiveness are the demand for this category of workers in a particular labor market and supply from the economically active population with in-demand specialties.

Competitiveness provides certain benefits to the employee, and not only him. Firstly, if an employee is competitive, he or she can easily occupy a vacant post in other enterprises or displace another worker. Secondly, if employees are competitive, Russian companies have the opportunity to compete for the leadership on the international market.

After analyzing the works of domestic and foreign authors (M. Feonova, A. Selyutina, E. Bogdanova, E. Galuzo, L. Ivanovskaya and N.A. Lyapkina, I. Suslova, T. Khlopova, I. Durakova and A. Kibanov, H. Gorelov), experts in the field "headhunting" and experience of PJSC "Novolipetsk Metallurgical Plant", PJSC "Severstal", PJSC "MMC "Norilsk Nickel", we determined that the structure and content of the criteria-based elements that form the employee competitiveness, depends on many factors: the purpose of formation, the specification and requirements of the post (labour market level, industry, etc.); the employee's field (external, internal labour markets), etc. [1]

The main drawback of the studied methods of assessment is one-sided object assessment. There are no systemic and situational approaches to the employee competitiveness assessment, taking into account the integration with the competitiveness objects and labour markets. Besides, the authors do not consider the impact of economic globalization, when the elements should be standardized for all employees.

In the conditions of economic globalization the worker will be competitive if he or she has sufficient set of elements that form economy. For example, in Soviet-type economic planning such element as higher education made a worker competitive. However, in conditions of constant spatial economic transformation it is not enough.

Thus, as the basis of the method of determining the content and level of development of the elements which form a competitive employee the following sequence of stages was given:

1) to combine all the studied elements in a single list and work out the elements-based questionnaire;

2) to poll workers to identify elements that have the greatest impact on achieving results in their professional activities, larger salaries, promotion, etc.;

3) to put the results into MS Excel (each characteristic in the survey was estimated by respondents from 0 to 100 points);

4) to process the results using software STATISTICA6;

5) to hold experts scoring (to determine the level of the development of each item and overall level);

6) to carry out the calculation with application of the formula;

7) to rank the coefficents;

8) to determine the level of employee competitiveness.

Results and discussion

On the basis of critical understanding of the methodologically accumulated base and of the analysis of requirements to the quality of the workforce and professional competencies on the internal and external markets in the global economy we have identified a set of elements that form the employee competitiveness, which we have structured in the following components:

– personal;

– professional.

On the first and second stages of determining the content of the elements, that form the employee competitiveness, a questionnaire to respondents is developed. It focuses on the characteristics that influence the results of professional activity, larger salaries, promotion, etc.

On the third stage the results are recorded in MS Excel to import them in STATISTICA6.

Marketing method – research is used to obtain quantitative data. The results are recorded in the form of answers – questionnaire.

Each item is scored on a 100 point scale, depending on the issue. Then the results are added to MS Excel database, summarized and recorded in STATISTICA 6 , which the data is processed with. The pro-

gram will identify the characteristics that have the greatest influence on the formation and development of competitiveness.

The fourth stage is data processing. Processing of results is carried out using the principal components analysis used in Chemometrics for solving various tasks. This method is based on factor analysis and the construction of the correlation matrix.

The reliability of the data obtained can be checked using the Scree test, a graphical method first proposed by Cattell; factor loadings; the plotting scale.

The principal component analysis and STATISTICA 6 has allowed us to obtain representative data of 295 respondents. Nineteen principal components (elements) that have the greatest impact, determine the structure and form employee competitiveness has been selected.

1) education;
2) gender;
3) mental capacity;
4) speed of work;
5) tasks complexity;
6) the amount of work;
7) professional experience;
8) planning and organization;
9) decision-making;
10) coordination and control of activities;
11) analytical thinking;
12) the ability to transfer knowledge and skills, the ability to teach;
13) independent investment;
14) responsibility for work results;
15) innovative forms of training at the enterprise;
16) additional opportunities for health improvement, physical culture and sport for workers and family members; cultural and leisure activities;
17) corporate pensions programs;
18) personnel reserve programs,
19) the development of corporate social programs.

The construction of mathematical model has identified gender as one of the elements of employee competitiveness formation. The issue of gender segregation in labour market was raised long ago, but it's hard to determine who is the most competitive. This question deserves separate scientific research.

The data obtained in the result of mathematical analysis allow to note that the selected dominant elements are part of employee competitiveness and directly involved in its formation.

The elements that form the competitiveness are marked as dominant, because we cannot accurately determine the baseline composition of the elements of employee competiveness. In a constantly changing situation and taking into account different levels (national, regional, and of an enterprise) some of the elements will have a greater impact, others will have less impact on employment and wages in a particular region, an enterprise. For example, employees competitiveness in Lipetsk region may be lower than the competitiveness of Voronezh region workers, and a Russian worker may be uncompetitive in comparison with the European one.

The presence of the dominant elements of competitiveness will allow employees to be more mobile on the territory of Russia and work in any region, but taking into account the prior training and adaptation in a specific industry. Therefore, the elements of competitiveness are dominant.

Before entering external labor market a worker needs to build competitiveness at the state level, and then to promote his or her level of competitiveness to the level of a particular country.

The fifth stage is to hold a point evaluation by experts (to determine the level of development of each element and the aggregate level). To determine the level of competitiveness on internal or external labor markets, an employee or an employer is recommended to focus on the given example of the matrix of employees competitiveness assessment in the conditions of economic globalization, which was tested at the enterprises in Lipetsk and Moscow regions. A fragment of matrix is shown in Table 1.

Table 1.

A fragment of matrix of employees competitiveness assessment

Full Name	Coefficients					∑points	Employee competitive-ness level	Employee appraiser recommendations
	1	2	…	16	17			
Malinin I.V.	100	100	…	100	100	1700	high	to maintain the level, intangible motivation

Each indicator has a maximum of 100 points, thus, when all indicators are added, the maximum sum that determines employees competitiveness is 1900 points. If you do not consider the gender indicator, the maximum is 1800 points.

Taking into account changes in the number of coefficients the amount is 1700 or 1600 as a result of additional mathematical analysis, and the level of employees competitiveness is determined by comparison in the organization, then the amount may be:

1700/1600 − 1320 − high level;

1319 − 939 − upper – intermediate level;

938 − 558 − intermediate level;

557 − 177 − pre – intermediate level;

176 − 0 − low level.

The competitiveness level is determined from the received amount of points. Further recommendations to improve the situation or solve the problem are given. It depends on the coefficient with the least points.

The sixth stage is represented, in this case, in the form of indicators adjustments and allocation formulas. The number of indicators has become less and the dominant elements are 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17.

It should also be pointed out that a specific structure of dominant elements of competitiveness allows taking into account the impact of the environment. Thus, the degree of negative influence of economic globalization technological factors allows to reduce the impact of the environment and use the opportunity of C1, C3, C7, C15; regulatory factor C13, C14, C16, C17; factor of production C4, C5; infrastructure condition factor C6, C8, C9, C10, C11. However, the distribution of elements is not static, so the content of each element may vary depending on the level that forms it.

Since the assessment of indexes throughout the entire process of formation and development is changing, for each of them we have assigned constant weighting factor.

To get more accurate data, weighting factors which correspond to employees competitiveness assessment indexes have been determined (formula 1).

Quantitative value of weighting factor was assigned by determining the proportionality of index value and total variance. The formula is represented as:

$$CPT_{emp} = 0{,}07 \times C_1 + 0{,}07 \times C_2 + 0{,}07 \times C_3 + 0{,}06 \times C_4 + 0{,}07 \times$$
$$\times C_5 + 0{,}07 \times C_6 + 0{,}08 \times C_7 + 0{,}07 \times C_8 + 0{,}07 \times C_9 + 0{,}07 \times C_{10} +$$
$$+ 0{,}07 \times C_{11} + 0{,}06 \times C_{12} + 0{,}07 \times C_{13} + 0{,}06 \times C_{14} + 0{,}10 \times C_{15} +$$
$$+ 0{,}09 \times C_{16} + 0{,}09 \times C_{17}. \ (1)$$

The final stage of the assessment in the given method is to rank and determine the total level of the development of the elements, which form employees competitiveness. This is quantitative assessment of the level of employees competitiveness (tab. 2).

Table 2.

Example of calculating the employee competitiveness level

Full name	Employee competitiveness calculation	Employee competitiveness level, %
Malinin I.V.	0,07×100+0,07×100+0,07×100+0,06×100+0,07×100 +0,07×100+0,08×100+,07×100+0,07×100+0,07×100 +0,07×100+0,06×100+0,07×100+0,06×100+0,10×10 0+0,09×100+0,09×100=115	115/100 = 1,15

The ranking is done according to the following rank:

$C_{cpt} \geq 1$ – high level of competitiveness;

$0{,}75 \leq C_{cpt} < 1$ – upper-intermediate level;

$0{,}5 \leq C_{cpt} < 0{,}75$ – intermediate level;

$0{,}25 \leq C_{cpt} < 0{,}5$ – pre-intermediate level;

$0 \leq C_{cpt} < 0{,}25$ – low level.

Conclusion

The proposed method allows:

– to assess the level of employee competitiveness taking into account the requirements which are formed under economic globalization and are imposed to the quality of workforce, professional competencies on external and internal markets;

– to identify items that do not match the criterion level;

– to make recommendations to form or develop the dominant elements of competitiveness considering the environment challenges and the strategic objectives of a company, region, country;

– to form the basis to improve motivation policies at all levels.

It's necessary to note that there are some errors, which depend on industry-specific post and its requirements; the employee location (internal or external labour market), etc. Structure and content of the elements that form the employee competitiveness may vary.

References

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