

IMPROVING OF THE LABOR MARKET COMPETITIVENESS BASED ON  
ITS MODELING AT THE EMPLOYMENT

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Speeding-up of economical growth of the country is related to improvement of systems of management of human recourses. They represent the part of the population, which has required physical qualities, knowledge and skills in the corresponding production sector. Business' and organizations' provision in necessary human recourses, its rational usage and high level of productivity of labor has great value for business development.

Modern market requires the specialization of individual relations between the employer and the employee, irrespective of organization's patterns of ownership. At the labor market, human recourses are considered as goods which have special features. Its specificity is: it produces purchases more costly than it costs by itself, any business is impossible without it and productivity of any undertaking.

One of the main tasks in the management of human recourses is management of recruitment process. Under this process one understand the system of actions, which is held by the governmental and private organizations to help to the public with searching for the job and job placement, depending on skills, education and personal and social needs.

According to the Ukrainian law, the liability to provide job placement of citizens is rested on State Employment Service of Ukraine. Development of the market relations led to the appearance of other forms of mediation in job placement issues. Non-governmental organizations appeared. The main activities of which

were mediatory services with job placement. Also, electronic services, throughout global web, were widely spread. Nowadays, mass media is playing a big role by advertising both supply and demand on work.

At employment services (governmental, commercial, electronic) huge volumes of information about vacancies and employees are accumulated. Thus, employment services, doing job placement, dealing with two problems: implement the selection vacancies depending on qualifications and requests of job seeker.

The selection of job applicants allows forming personnel who is necessary for the business. The selection is made in accordance to quantitative and qualitative characteristics of applicants and requests of the firm. Methods of selection of employees should correspond to the next criterions: reliability and authenticity. During personnel selection should be considered production specification of the firm, its size, complexity and technological variability.

At the company, between the applicants, who was selected by the employment services, the final selection is made by the complex of procedures of assessment and recruitment for specific position by collation of requirements for position and skills, qualification, work experience and personal characteristics of the applicant. Thus, after the selection, quantitative and qualitative choice of personnel and final placement is made.

Preliminary selection at the employment services can be made by formal methods under principal measures. For this is necessary to confront companies' requirements with applicant's abilities by next steps:

1. Forming data bases of vacancies under career's heading.

Companies sending the request to the employment services, in which requirements for the potential employees  $C_i$ , characteristic of vacancy  $R_j$  and the company  $P_k$  are listed. Requirements for the employee concern his proficiency, qualification, level of education, age, work experience, etc. As for position: shift system, salary, duration of holidays, etc. And characteristics of the hiring company such as: pattern of ownership, size, benefits, etc. Thus, all characteristics can be divided into two groups: requirements for the employee and job's and company's descriptions.

## 2. Forming of job applicant's data base.

Job applicants filling in application forms with personal information and requirements for the searching position. The applicants' characteristics apply the age, sex, profession, qualifications and other. Job requirements: shift-working arrangements, availability of getting accommodation, etc. By the structure, this data correspond to the set  $C_i$ .

## 3. Preliminary set of organizations selection

From the data base of organizations, the data of the enterprises  $G(C_i)$  is chosen, requirements  $C_i$  of which don't contradict to the characteristics of the applicant  $S_i$ .

## 4. Final selection of the set of organizations.

From the set of the organizations  $G(C_i)$  is singled out the subset of organizations  $G(C_i, P_k, R_j)$ , where characteristics  $P_k$  and  $R_j$  don't contradict to the requirements of the applicant  $B_n$ .

## 5. Bunching of the chosen organizations by appeal to the applicants.

For the organizations bunching, it is suggested to use methods of multivariate analysis, particularly methods of the Cluster Analysis.

With the help of Cluster Analysis can be solved such problems as: classification of the objects in consideration of different criterions in aggregate, which represent its nature; determination of specific structure in the observable objects in total; properties research of weak examined facts with the help of its classifications.

The base of the cluster analysis is the concept of object similarity. Each cluster combines objects which have the similar characteristics. In cluster analysis different functions of the distance between the objects is used. More often for defining the distance is used the function of the Euclidean distance. For cluster analysis different methods are used. Between which can be singled out the group of iterative approaches. Main point of these methods is that the process of classification starts with starting condition specification (number of formed clusters, etalons). It is convenient to separate out three clusters by the coincidence degree with the applicant requirements:

1<sup>st</sup> cluster – the most attractive organizations;

2<sup>nd</sup> cluster – organizations with the average level of attractiveness;

3<sup>rd</sup> – the least attractive organizations.

Procedures of classification should be start by setting the k randomly chosen objects as etalons (centers of the clusters). Initial conditions play an important part as they affect the duration of the process and its results.

The algorithm of the clustering indicates the high laboriousness of the operations and necessity of calculating precisely. That is why, for defining the organizations classification by its attractiveness for applicant with the help of cluster methods, it is quite important to use modern information technologies which are applicable for statistic investigations. At this time, the most widely spread package is Statistica. This package uses modular approach.

Introduced modeling method can be used at the Employment Services for the rise in validity of employees selection in consideration of the organization and applicants requirements.

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