

## THE CONCEPTION OF A PERSONNEL SELECTION INFORMATION SYSTEM

**Crisanta-Alina MAZILESCU**

University "Politehnica" of Timisoara

e-mail: [alina.mazilescu@gmail.com](mailto:alina.mazilescu@gmail.com)

**Keywords:** information system, human resources selection

### **Abstract**

Due to the specific nature of the professional aspects in human resources management, the IT system suggested is located at the intersection of the generality of a theoretical IT system model and the particularity of an application within an industrial enterprise.

From an informational point of view, the system suggested has four modules or informational units, each of them with a different function within the system and, at the same time, each of them contributing to the defining of the general function of the IT system, that of personnel selection.

### **1. Introduction**

The main function of the information system suggested is the personnel selection, and it is desired to be a theoretical support for the development of a personnel selection program within an organizational environment.

Kovach and Catharct define the human resources information system as "a group of procedures of collecting, storing, restoring and validating the data regarding human resources, the personnel activities and certain organizational characteristics which the enterprise needs"; "the human resources information system does not have to be complex or computerized. That way, the concept of a human resources information system does not have to be limited to the technology it is made of" [3].

Starting from this definition of the information system, we have suggested a theoretical model with applicability in the human resources selection.

### **2. Theoretical model of a personnel selection information system**

The development of an information system begins with its definition from the perspective of three complementary levels: organizational, informational and technological [9].

- *the organizational level* – aims to define the relation between the structure of the organization and the structure of the information system as well as its roles in the storage, processing and communication of the information about the organization;
- *the information level* – aims to define the communication language, the input data, of the operations and results suggested;
- *the technological level* – entails the selection of technology and the precise definition of its usage. According to the technology chosen we can be decided what are the operations and the conditions when these can be automatized.

Defining the system is actually a synthetic description which specifies what the system is, who will use it, what it will be used for and what are its functional restrictions.

At the organizational level, the utility of the system suggested is based on the following arguments:

- quick resolution of certain administrative tasks related to the structuring of information about the personnel employed and the candidates;

- internationalization of communication between the employees and the candidates entails flexible and reactive instruments, which can be made available to the persons interested, and can be easily adapted to the local specificity;
- to better coordinate team work, managers need up-to-date information about the personnel of the enterprise and support instruments when making decisions.
- the desire to make all employees more responsible by having them actively take part in the planning of their own career;
- the changes of job positions, in terms of content, towards tasks who consume more and more enterprise-related information.

From the point of view of data, the operations and the data processing processes, the system can be illustrated as follows:

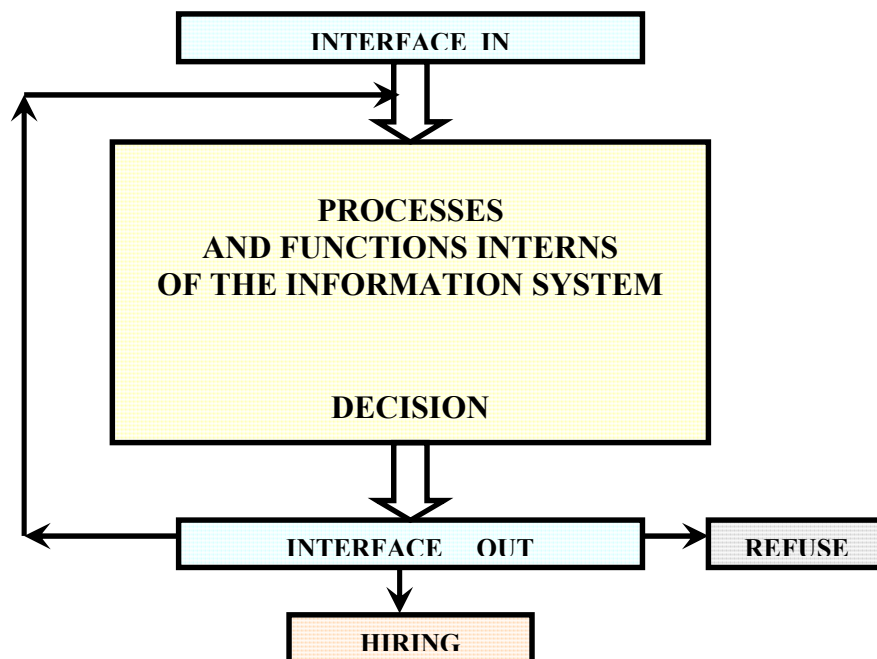


Fig1 – Illustration of the information system from the point of view of input and output data

The actors of the information system are one of its structural elements.

In the case of the personnel selection information system, the actors are:

- the personnel of the human resources department;
- the human resources manager;
- the manager of the enterprise;
- the candidates taking part in the selection;
- the personnel of the enterprise;

The information system suggested is to be made of four modules or functional units, each has a different function within the system, and at the same time, each of the modules contributes to defining the general function of the information system, that of personnel selection.

The four functional modules of the system are listed in Image ...:

- the "Database" module;
- the "Prediction" module;

- the "Assessment" module;
- the "Decision" module.

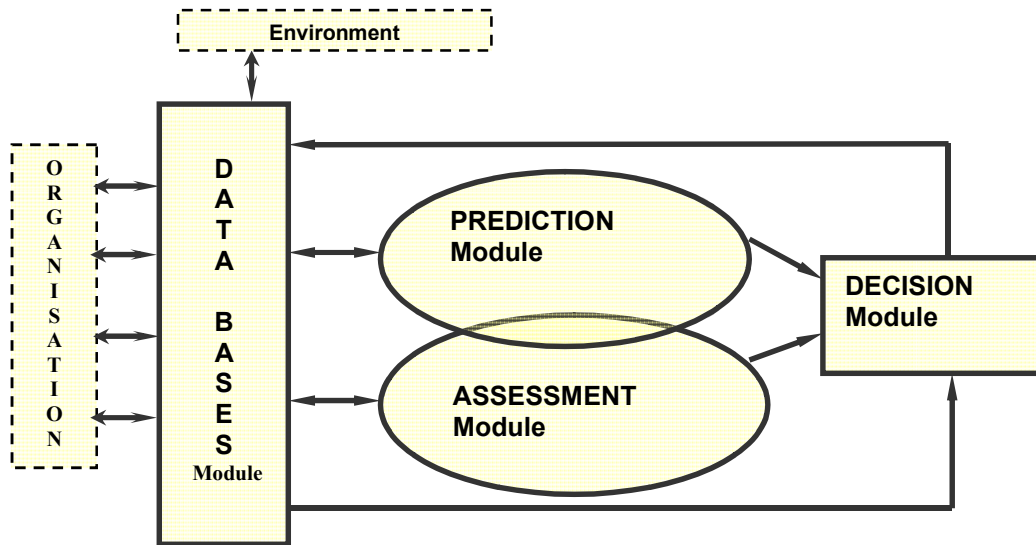


Fig.2. – Modular presentation of the personnel selection information system

### The "Database" module

The main function of this module is to collect data about the personnel employed, about the enterprise and about the environment outside the enterprise, with connections and implications in the personnel selection and assessment process.

In what regards the environment outside the enterprise, the following information are required:

- the labor market tendencies;
- the educational models in the area;
- the capacity of the training and development systems of the human resources in the enterprise area;
- the attraction of the area and the local facilities;
- the legislative or judicial frame;
- personal data of the candidates from outside the enterprise.

The information about the organization must make reference to:

- the nature and the location of the organization;
- the organizational culture;
- the type of agreement, the work conditions, the hours of work, holidays etc;
- the possibilities of career evolution;
- roles, tasks, duties, responsibilities;
- personal requirements and behavior restraints;
- time restraints (specify the period of employment).

The information about the candidates must make reference to the following:

- biographical characteristics, age, gender, education, professional experience;
- knowledge and skills;
- psychomotor aptitudes and skills;
- cognitive abilities;

- behavior traits;
- interests and values;
- the motivation for soliciting the respective job position;
- preferences and career aims;
- needs and requirements in what regards the work conditions, salary;
- availability (hours and periods).

### **The "Prediction" module**

This information module regards predictions in the human resources management field with direct implications on the personnel selection, and has a bi-temporal dimension, aiming both at the present activity as well as the future one.

Four major aspects define this module:

- predictions regarding the personnel man-power of the organization;
- predictions regarding job positions and trades;
- career predictions;
- performance predictions.

*The predictions regarding the organization man-power* aim to identify the personnel needed by the organization, with the qualifications and specialization necessary to fulfill the organization's objectives on the long and short term.

Also called planning of the workforce, the projected management of man-power is based on the quantitative analysis of several social and demographic aspects: inputs, outputs, collective aspects of the organization's man-power's evolution and its distribution according to professional categories. In other words, the stress is put mainly on the collective problems of the organization.

The necessary information to predicting the workforce of the organization is information related to the characteristics of the employees and of the organization.

The personnel planning must be carried out in compliance with:

- the general objectives of the enterprise;
- the production programs;
- the professional standards;
- the production budgets;
- the productivity tendency;
- the human resources inventory;
- the personnel estimate;
- the prediction of the personnel potential;

*The predictions regarding job positions and trades* is based on the analysis of the job positions and trades' evolution within the enterprise and on the labor request. Therefore, the offer of job positions of the enterprise is carried out according to:

- the needs of the enterprise;
- the social and economical determining factors,
- the technical changes;
- the strategy of the enterprise

*The career prediction* takes into consideration the planning of the professional progress of the employees according to the professional evaluation and evolution of the personnel, but also according to the social and organizational changes and the recruiting strategy of the enterprise.

*The performance prediction* is a dimension at the congruence of the individual capacities and performances with labor organization and the professional technique

and context. The performance prediction is carried out according to psychological results and professional knowledge, directly depending on the psychometric qualities of the assessment proofs used.

The main function of the "**Assessment**" module is to evaluate the knowledge and capacities of the persons applying from outside the enterprise, but it also deals with assessing the employees' performance. It also predicts and assesses the selection costs and evaluates the utility of the selection decision.

*Capacity assessment* – refers to assessing the aptitudes considered necessary for carrying out the job position for which the selection takes place. Based on these results, predictions are made regarding the level of success the person evaluated can achieve in the respective trade or job position.

This assessment can be based on an information support, useful both in the psychological testing, as well as in the results processing and their storage or quick accessing when necessary.

*Performance assessment* – this activity aims to have the results of the personnel's work estimated by their superiors or work colleagues, either in reference to the other colleagues or, in reference to the work tasks and the objectives of the enterprise.

The estimates can be done by means of a computer, both in the expression stage, as well as in the results processing stage. The use of a computer can ease up the assessors' work according to the method of estimation preferred.

*Knowledge assessment* – it aims to identify the level of assimilation of professional knowledge and the capacity to operate it. Knowledge assessment can also be facilitated by the usage of information programs which offer a quick processing and high objectivity in judging the answers.

*Costs assessment* - it assesses the selection process from the point of view of the implied costs. Calculation of the costs can be done either by dividing them into two categories, variable and fixed costs, or by dividing the costs according to the total sum of the operations implied.

*The assessment of the utility of the selection decision* entails the employment evaluation according to the results of the candidate assessment, but also other factors such as:

- the period of time it takes to occupy the open job positions;
- the relation between the number of solicitors of open job positions and that of the persons recruited;
- the relation between the number of people recruited and the costs of recruitment;

### The "**Decision**" module

This information module makes reference to the decisions taken when sorting candidatures, employing the candidates and it entails an analysis of all information about the candidates; the final decision regarding the utility of the selection shall be taken according to the benefits obtained as a result of the selection.

#### *The employment decision*

The candidates' selection is the result of a decision which will be made by the manager of the enterprise according to the information in the CV, the letters of motivation, the letters of recommendation, the results of the candidates' assessment.

*The assessment of the selection process* (the validation of the selection procedure) aims to evaluate it from the point of view of the tests used and the professional results of the candidates selected, results obtained after a certain period of time from hiring them.

In order to know if the results of the test predict the professional success, we calculate the correlation between the test results of a person and their performances in a practical activity which solicits the trait tested. From a statistical point of view, we shall obtain a significant relation between the instruments of prediction and the performance criteria.

*The decision regarding the utility of the selection program* is an assessing activity which establishes to what extent the selection carried out has met its aims, mainly in reference to the implied costs and the results of the persons selected.

*The re-assessment of the selection program* – is an activity which must be periodically subjected to a re-evaluation in order to optimize it from a functional point of view.

### 3. Conclusion

The information system suggested can be applied in the human resources selection, and it contributes to the growth of the personnel activities' efficiency.

#### References:

- [1] Amiel, M. & Bonnet, F., (2002) *Recruter sans trop d'erreurs*, Ed. Boeck Universite, Bruxelles,;
- [2] Bogathy, Z. (coord) (2004) *Manual de psihologia muncii și organizațională*, Editura Polirom, Iași.
- [3] Bournois F, Pojot J și Scaringelle J-L. (2003) *RH – les meilleurs pratiques des entreprises du CAC 40*, Ed d'Organisation, Paris.
- [4] Gangloff, B. (coord) (2000) *Les competences professionnelles. Descriptif, mesure et développement*, Ed. L'Harmattan, Paris.
- [5] Henriot, B și Imbert, M (2002), *DRH: tirez parti des technologies*, Editions d'Organisation, Paris.
- [6] Herriot, P. (coord.) (1994), *Assessment and Selection in Organizations*, John Wiley & Sons, Inc., New York.
- [7] Mazilescu, C.A - *Managementul resurselor umane – Selecția personalului în organizații*, Editura Eurobit, Timișoara, 2000;
- [8] Morlez, C. (1999), *Gestion d'un projet système d'information. Principes techniques, mise en oeuvre et outils*, Ed. Dunod, Paris .
- [8] Pitariu, H. (1994), *Managementul resurselor umane - măsurarea performanțelor profesionale*, Editura All, București
- [9] Reix, R. (2002), *Systèmes d'information et management des organisations*, Librairie Vuibert, Paris.
- [10] Rowe, F (coord.) (2002), *Faire de la recherche en systèmes d'information*, Librairie Vuibert, Paris.