

INFORMATION SYSTEMS FOR HUMAN RESOURCE MANAGEMENT IN INVESTMENT BUILDING

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Abstract: Information system (IS) is defined as a system of people, data records and activities that process the data and information in an organization, and it includes the organization's manual and automated processes. The aim of information systems (IS) is to process data collected in the information for their transformation into knowledge for various purposes.

The term "human resources" is used since the 60's of the previous century, with developing the management system and different approach to the labour, and for the sake of integrating the staff with organization's goals, profiling the real needs, creation of the sense of belonging with the ultimate goal of increasing the efficiency and effectiveness of the process and creation of greater profit. It was developed in USA, and Japanese and European models of personnel operating appeared.

Key words: IS (Information System), human resources, investment building

1. INTRODUCTION

Information System (IS) is a set of activities for the processing of information, together with associated organizational resources such as human, technical and financial, to provide and distribute information. Connections between objects and connection system with the environment, with information system, make the exchange of information. On the basis of the information system can be defined as a set of techniques and technologies, methods and procedures for the proper planning the collection, preparation, transmission, storage and processing of data based on the application of computers and the distribution and presentation of information to use for decision-making [7, 11, 16-18, 20-22].

The main characteristics of information systems (IS) are that they:

- Organize data to give information and
- Analyze information to give knowledge.

Information Systems has a number of different areas of work [1, 3, 6, 8, 9, 20-22]:

- Information systems strategy,
- Information systems management,
- Information systems development and,
- Information systems security.

There are a number of developed information systems (IS) and a large number of different classifications. Computer-based information systems (CBIS), according to the degree of automation (which characterized the period), are divided into [2, 3, 7, 11, 16-18, 19-22]:

- Transaction Processing Systems (TPS),
- Management Information Systems (MIS),
- Executive Information Systems (EIS),
- Decision Support Systems (DSS),
- Office Automation Systems (OAS),
- On-Line Transaction Processing (OLTP),
- On-Line Analytical Processing (OLAP),
- Expert System (ES),
- Information Expert System (IES),
- Business Information Systems (BIS),
- Business Intelligence (BI),

- Web-Based Information Systems (WBIS) [13-15] and etc.

2. STAGES IN DEVELOPMENT OF HUMAN RESOURCE MANAGEMENT

As all other fields of management, the human resource management has evolved over the time. The roots have emerged long time ago, back in the end of XVIII century, at the time of craftsmanship, when Adam Smith was the first one to observe the advantages of labour division. After the key scientific findings and Industrial Revolution, it has come to mass production. Working condition in the original plants were inhumane and working hours too long. The term unemployment appeared for the first time. After the appearance of the first social protests against factories' owners, the dissatisfaction culminated in ludicrous movement and destruction of machines. The first serious attempt to connect managerial decisions and human resources was made by Robert Owen in his own factory by introduction of more humane working conditions, shorter working hours and other social benefits. Although he was motivated exclusively by the increase of productivity, for the first time it was proven that the relationship to people is directly connected with better production results. Charles Babbage, who was engaged in studying social consequences of accelerated mechanization and urbanization, has shown that the interests of the labour and employers do not always have to be in conflict situation. For the first time, in 1832 the terms of profit division were introduced, as well as other categories that make a connection between behaviour towards the labour and company's profit.

When it comes to phases in the development of human resource management, there are three different approaches:

1. Personnel Management
2. Human Resource Management
3. Strategic Human Resource Management.

Starting from industrial revolution up to the 80's of the previous century, it was about personnel management. This function is reflected in the form of different variants of personnel services. Main task was administrative management of salaries, benefits, holidays etc.

Although the people began to understand that personnel management was important for company's success, not before the end of the 80's did it become clear that people are a valuable resource that needs to be paid the attention in strategic sense. In that period, the term „human resource management“ appeared. Personnel management had the function of specialists support to organization management, while human resource management takes an equal place with other management aspects. Human resources get the component of competitive advantage.

In the 90's, human resource management is definitely transformed into essential management activity, which is based on performance. Official, generally accepted definition does not exist. One of the definitions is that human resource management is „a management function, with theoretical and regulatory component, by which a series of procedures are established that refer to the employees, that are consistent with organization's strategy, that provide the quality of working conditions, high commitment and performance of employees, work effectiveness and competitive advantage“ (Figure 1) [4, 5, 12, 23].

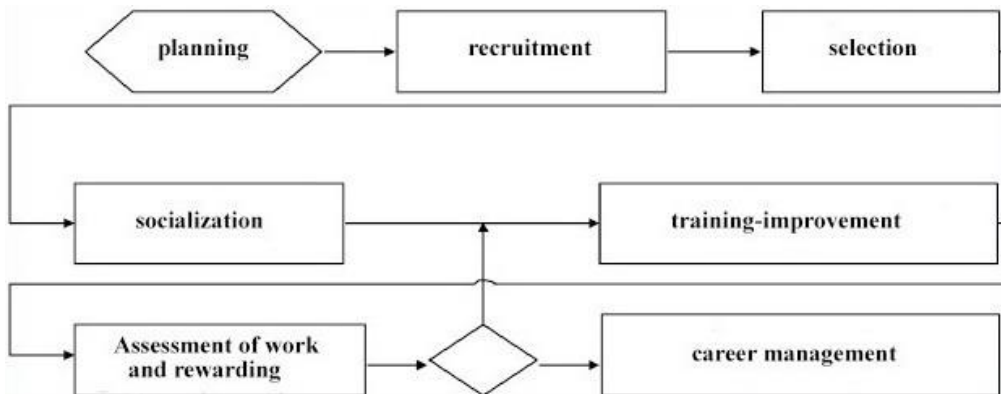


Figure 1. Human Resource Management (HRM)

Definition emphasizes the significance of balancing the company's needs and the needs of employees. It is assumed that any discrepancy between these needs, which are often conflicted, inevitably leads up to the violation of relationship between employers and employees and to causing negative effects for the growth and development of the organization.

Strategic component has led to the third phase in development of human resource management, which is called strategic human resource management and it can be defined as „development and implementation of human strategies that are integrated with company's strategy and that enable for the culture, values and structure of the company, as well as quality, motivation and commitment of employees, to entirely contribute to the achievement of company's goals.“ Strategic human resource management consists of a series of procedures with the aim of maximizing organizational integration, employees' commitment, flexibility and quality of work. Difference in relation to the previous phase is in the integration with company's strategy, compared to the previous alignment with the strategy. Instead of adapting, human resource management participates in the creation of strategy. The emphasis is on mutual relation between the people, strategy, company's structure and external environment. It is considered that the precondition for company's success is understanding the significance of people and their contribution to the achievement of company's goals (Figure 2).

Having in mind that strategic human resource management is inextricably connected with strategic management of the company as a whole, we must first pay the attention to this subject [4, 5, 12, 23].



Figure 2. Human resource management in the global market [5]

3. POSSIBLE VARIANT OF THE STRUCTURE OF KEY PROCESSES IN INVESTMENT BUILDING

There are two types of projects that are realized within construction companies: investment projects on which the enterprise obtains profits and projects that are related to the regulation of organization and enterprise management. Taking part in investment projects is the most important for the company and it makes the main part of medium-term plan of the enterprise. Each enterprise has its own system of decision-making on participation in particular investment projects and their implementation. This is about the projects that deal with process regulation and that should be carried out independently from the pressures of current affairs on investment projects. Those are the projects whose ultimate goal is establishing business system of enterprise that is defined by long-term business plan. Projects of this type are related to the improvement of key processes, change in organizational structure, establishment of information system and establishment of the system for process management [10, 24-30].

Main steps that need to be taken when forming business plan of the enterprise and that are prior to the implementation of individual projects related to the regulation of processes in enterprise are the following:

- *Establishing the current state* (Establishing the current state, having in mind process orientation, represents determination of economic and other measurable parameters on the basis of really described existing processes in the enterprise.)
- *Establishing the current and predicting the future requirements of the environment* (Establishing the existing and predicting the future requirements of the environment is derived from the long-term strategic plan. Requirements that are set before the enterprise need to be expressed through measurable parameters, so that real comparison to the results of the process could be done.)
- *Establishing the quantified goals* (Goals of the project are related to the strategic plan and they are a qualitative expression of the improvement of business. They need to be formulated in a clear and concise way so that their achievement can be measured easily. The goals refer to the characteristics of results of production or service processes that we wish to improve. A clear formulation of goals implies that it is necessary to identify what is to be improved, to what extent and during which period. For example: reduce the time necessary for the development of main project by 10% in the following year, complete the implementation of new technology of AB elements development until the end of 2010, etc.)

We present a possible variant as a suggestion of the structure of key processes for a construction company that deals with designing and construction works [10, 24-30]:

1. Processes of managing the company:

- Formulation of the place and role of enterprise in business and socio-political environment – mission, vision and strategy of the enterprise.
- Formation and maintenance of enterprise's business system – definition of key processes, organizational structure, information system and system for process management.
- Definition and implementation of business plan – determination of the current state, determination of environment's requirements, determination of goals, realization of projects.
- Administrative and technical processes of managing the company – accounting, general services, ...

2. Support processes:

- Market research;
- Formation and updating of historical database;
- Preparation of offer;
- Contracting of work;
- Charging for the work performed;
- Coordination between participants in the project;
- Coordination between the objectives of process, objectives of project and enterprise's objectives;
- Coordination of the usage of financial, human and other resources;
- 3. Processes of project management:
 - Managing the workload;
 - Managing the costs;
 - Managing the dynamics of the execution of works;
 - Quality management;
 - Human resource management;
 - Communication management;
 - Procurement management;
 - Risk Management;
 - 4. Development and management of technical documentation:
 - Managing the development of technical documentation;
 - Development of project documentation;
 - Technical and technological preparation;
 - 5. Execution of works:
 - Groundwork;
 - Reinforced concrete and concrete construction works;
 - Masonry work;
 - Construction and craft works;
 - Installation works.

4. CONCLUSION

It is necessary to make a difference between the established theoretical approach and the fashion within managerial scientific corpus that is reflected in formulation of numerous management methods (reengineering of business processes, managing the total quality, computer-supported construction etc.), which, although with good intentions and interesting settings, do not own the capacity for radical changes precisely due to the lack of theoretical foundation.

Many decades of practice in construction have also had a negative impact of the formation of rigid mechanisms for the implementation of the projects that prevent the introduction of a different approach and practically promote classical management and the concept of managers' focusing on the job. Especially that the practice is in close relation with legal and regulatory system at the level of a state, which is rather difficult to change. That refers to standard procedures of the procurement of goods and services and standard procedures of negotiating.

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