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HUMAN RESOURCE INFORMATION SYSTEMS: TRENDS AND ADVANTAGES

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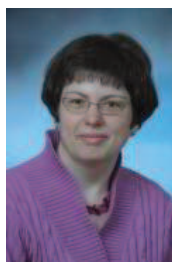
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Abstract: *The application of information system for HRM (HRIS) enables systematic processes for collecting, storing, maintaining, and recovering data required by the organizations about their human resources, their activities and organizational characteristics. In this paper author made theoretical analysis of HRIS accompanied by empirical data analysis of Cranet data for Central – Eastern Europe (CEE), from research period 2008/2010. Main goal of this research was to emphasize the advantages and limitations of HRIS but also the usage of HRIS for main HR practices in mentioned region. Methodology used in the research included exploration of the Cranet questionnaire, sample of CEE organizations and statistic techniques, trough the application of the program SPSS Version 17 and Microsoft Office Excel.*

1. INTRODUCTION

Human Resources or Personnel management represents a set of general and specific activities, aimed to assure, maintain and use efficiently the staff of the economic agents (public utilities, banks, insurance companies etc) [29].

One important practice for HRM is the application of information system. Tannenbaum defines HRIS as a technology-based system used to acquire, store, manipulate, analyze, retrieve, and distribute pertinent information regarding an organization's human resources [27]. Some in the past and nowadays studies attempted to identify the effectiveness and the importance of the use of HRIS for the HR functions in the organizations [21; 18; 22; 28; 8; 9; 7; 4].

In this paper author made analysis of HRIS from the theoretical point of view, accompanied by empirical data analysis of Cranet data for CEE region, from research period 2008/2010. Main goal of this research was to emphasize the importance, advantages and some limitations of HRIS, but also the usage of HRIS for main HR practices in CEE organizations. Methodology used in the research included exploration of the Cranet questionnaire, sample of organizations and statistic techniques.

2. THEORETHICAL BACKGROUND

HRIS can be defined as systematic procedure for collecting, storing, maintaining, and recovering data required by the organizations about their human resources, personnel activities and organizational characteristics [7]. Stone points out that the key condition for the successful operation of an information system in human resources management, that it is in line with the business strategy and HRM objectives of the organization [25]. HRIS is a tool that helps employers in retaining the right employees. This can be done by paying them competitive salaries compared to the market, and training them to develop their skills and abilities to carry out their existing and future jobs [15]. Stone sees HRIS as more than just computerized records of employees – it is an integrated approach to procurement, storage, analysis, and control of the flow of

information on human resources management throughout the organization [25].

In the line with the definitions, it is interesting to mention several researches made in the past that show how HRIS can facilitate and help HRM process. Lengnick-Hall and Moritz claims that HRIS can be implemented at three different levels: publishing of information, automation of transactions and transformation of HR into a strategic partner with the line business [12]. Some of the advantages of HRIS are:

- It can *automate and devolve* some traditionally routine administrative and compliance functions of HR departments [2].
- It *increases the administrative efficiency* in terms of faster information processing, employee communications and greater information accuracy [3; 16], lower HR costs and improvement of the HR productivity [7; 18].
- HRIS provides contribution to the strategic direction of the firm – *leadership development or talent management* [9] and makes an opportunity for HRM to play a role as a support in *strategic decision making* [25; 18; 10]. This strategic HRM approach is important even in public, state service, for example National Employment Service [4].
- *Increased access to HRM* data;
- *Strandardization of the HRM processes* within the company;
- *More consistent and more current information* on employees and their work;
- *Improving the internal image of HRM functions* [1].
Pilbeam and Corbridge [19] presented the advanatges of HRIS as:

- *Speed* - Computers can manage large amounts of complex data quickly.
- *Reliability and accuracy* - People are prone to errors, and manually generated information more open space for the occurrence of errors.
- *Storage and retrieval* - Storage of large amounts of data is expensive, and requires manually store data and physical space, and time. Computer data also occupy space or computer memory and time required for their entry and update, with the costs

incurred as a result of a manual processing of data growing over time, while the cost of computer memory and processing decreasing.

- *Consolidation* - Manual data are often found in multiple locations. Often there is no complete picture of the individual employee in a single record. Usually in one company there is more of manual files pertaining to one employee.
- *Making decisions* - The main reason for the construction of an integrated system of data on employees is to contribute to decision-making in the organization. Strategic decisions about the direction of development of the organization, should be based on information concerning various aspects of HR, and HRIS can provide accurate and precise information about it.
- *The role and influence on the office staff* - Good HRIS can promote the participation and involvement of HRM professionals in the process of strategic planning and improve the profile management functions of the HR administrative roles to the role of a business partner.

Beside many advantages, here it is also important to present main obstacles and challenges in HRIS implementation. According Stone the most important challenges of HRIS are *flexibility, confidentiality and legal problems* [25]. *Flexibility* is an important feature of information systems in the management of human resources. Whether you are buying or internally designs HRIS, HRM managers must keep in mind that a key element to the success of the system and future value of HRIS flexibility, i.e. the possibility to use system in a way that, at the time of design, is not yet accurately predicted. *Confidentiality* - HRM data are usually confidential and sensitive. Therefore, the key problem with HRIS included the potential abuse or invades of privacy of employees as authorized by unauthorized personnel. To ensure the confidentiality of the HRIS, it is important to thoroughly investigate the issues concerning user access (to computers and computer rooms and data), accuracy of data, disclosure, employee rights to review and HRIS security. HRM managers at the global level must ensure that HRMIS be in accordance with international laws on data privacy. *Legal issues* – Today organizations need to be aware of the risks and consequences of improper use of the Internet by employees. Voluntary acts of employees using their companies' Internet access and IT equipments for non-work-related purposes during working time is called "cyber loafing" [17]. Another similar problem is sending messages of the employees to disclose confidential information or intellectual property infringement. In order to put an end to such problems, about 75% of the largest U.S. companies decided to record and review employee communications (including telephone calls, e-mail and internet). Other organizations use special software to prevent access to unwanted sites. Primarily refers to the sites for shopping, gambling, pornography, etc. so they carefully set policy regulating the use of e-mail and the Internet. It is suggested creating written policies that advise employees that their e-mail messages are not private and can be read by managers, that the technology used in the workplace belongs to the company and that the company reserves the right to monitor the use of their computers. All employees must sign the rules, as a sign that they have read and understand them.

On the other hand, in case of banking industry founded that implementation of HRIS has to be accompanied with the process reengineering [22] as the radical redesign of technological processes in order to improve economic efficiency [20]. One of the most overlooked implementation issues is organizational inertia: getting the staff to adopt and adapt to a new system, which is actually a new business process for them [7].

3. METHODOLOGY

In this paper it has been used CRANET methodology (www.cranet.org) to identify the level of usage of HRIS in organizations from CEE region. This international organization organizes comparative researches on the policies and practices of human resource management, using a standardized questionnaire. The purpose of the research is to provide high quality data for academics, public and private sector organizations, as well as HRM students, and to create new knowledge about human resource management practice in different countries of the world. In CRANET research period from 2008 until 2010 there were involved 32 countries, but for this analysis authors decided to explore only data for organizations from CEE region. Countries involved in the research are: Bulgaria, Czech Republic, Estonia, Hungary, Slovakia, Slovenia and Serbia.

CRANET methodology and data were also used in research of Russian HRM practice [5] and often discussed in scientific papers worldwide on many other HR activities such as compensations and benefits [23; 24], HRM outsourcing [26], training and development [11; 13]. Methodology included the application of the program SPSS Version 17. The objectives of this analysis were to:

- Find out the kind of the HRIS that organizations in CEE region use;
- Find out the level of usage of HRIS for HR activities in CEE region organizations;
- Find out the existence of HRIS managers' and employees' self-service options.

4. RESULTS AND DISSCUSION

First part of the analysis was dedicated to the exploration of the kind of HRIS used in CEE organizations. According table 1 it can be concluded that CEE organizations usually use HRIS as a single independent system (33.5% of total number of organizations), and as a system that is included in wider MIS (25.9% of organizations). Beside these, in CEE organizations HRIS is in use also as a number of separate tools for HR functions (14.5%). 26.1% of the organizations do not have HRIS at all. In table 1there are presented the type of HRIS for each CEE country.

Table 1. The type of HRIS in CEE organizations

| Country supplying questionnaire		What kind of HRIS do you have?			
		Do not have a computerised HRIS	A number of separate stand alone tools	A single primarily independent HRIS	System primarily interfaced into a wider management IS
Bulgaria	Count	110	21	81	36
	%	44.4%	8.5%	32.7%	14.5%
Czech Republic	Count	0	6	19	29
	%	.0%	11.1%	35.2%	53.7%
Estonia	Count	7	19	30	16
	%	9.7%	26.4%	41.7%	22.2%
Hungary	Count	59	21	27	28
	%	43.7%	15.6%	20.0%	20.7%
Slovakia	Count	47	31	86	59
	%	21.1%	13.9%	38.6%	26.5%
Slovenia	Count	20	42	79	76
	%	9.2%	19.4%	36.4%	35.0%
Serbia	Count	17	4	12	14
	%	36.2%	8.5%	25.5%	29.8%
Total	Count	260	144	334	258
	%	26.1%	14.5%	33.5%	25.9%

Source: Authors' research

Republic 53.7% of organizations use HRIS as a part of a wider Management Information System.

In figure 1 there are presented data of the usage of HRIS for each HR activity in organizations that operate in CEE region.

Most organizations from Bulgaria do not use HRIS at all (44.4%), then from Hungary (43.7%) and Serbia (36.2%). In Czech

Figure 1. The usage of HRIS for HR activities
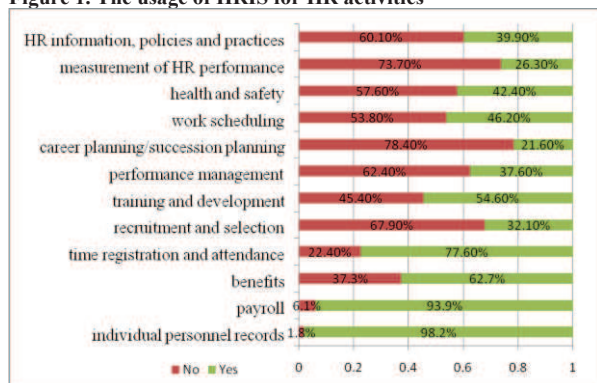
Source: Authors' research

It can be concluded that HRIS is used mostly for administrative activities such as time registration and attendance (77.6%) and personnel records (98.2%). Also, HRIS is commonly used for compensations – 83.3% of organizations use IS for payroll and 93.9% for benefits.

Generally, in organizations in CEE region HRIS is still used at low level. This usage is low for HR performance measurement (only 26.3% of organizations), career planning (21.6%), performance management (37.6%), and recruitment and selection (32.1%). In case of training and development and work scheduling the usage of HRIS is around 50% (almost half of all organizations use this kind of HRIS).

The last objective of the analysis was to explore whether HRIS allow self service options for employees and managers.

Table 2. Self – service for managers

Country supplying questionnaire		Does your HRIS include manager self-service?		Total
		No	Yes	
Bulgaria	Count	98	33	131
	%	74.8%	25.2%	100.0%
Czech Republic	Count	38	15	53
	%	71.7%	28.3%	100.0%
Estonia	Count	35	30	65
	%	53.8%	46.2%	100.0%
Hungary	Count	50	25	75
	%	66.7%	33.3%	100.0%
Slovakia	Count	103	66	169
	%	60.9%	39.1%	100.0%
Slovenia	Count	138	57	195
	%	70.8%	29.2%	100.0%
Serbia	Count	18	9	27
	%	66.7%	33.3%	100.0%
Total	Count	480	235	715
	%	67.1%	32.9%	100.0%

Source: Authors' research

From table 2 and 3 it is seen that in organizations which operate in CEE region there is no enough self service options.

Table 3. Self – service for employees

Country supplying questionnaire		Does your HRIS include employee self-service?		Total
		No	Yes	
Bulgaria	Count	117	15	132
	%	88.6%	11.4%	100.0%
Czech Republic	Count	46	6	52
	%	88.5%	11.5%	100.0%

Estonia	Count	54	11	65
	%	83.1%	16.9%	100.0%
Hungary	Count	63	13	76
	%	82.9%	17.1%	100.0%
Slovakia	Count	124	46	170
	%	72.9%	27.1%	100.0%
Slovenia	Count	160	32	192
	%	83.3%	16.7%	100.0%
Serbia	Count	22	4	26
	%	84.6%	15.4%	100.0%
Total	Count	586	127	713
	%	82.2%	17.8%	100.0%

Source: Authors' research

Self – service options for managers as online tools whereby managers can complete HR processes exists only in 32.9% of all organizations. In case of employees this self – service options, as online tools whereby employees can access personal information and perform simple HR tasks such as maintaining personal data, exists only in 17.8% of all organizations. Generally, self service options are not included in HRIS in organizations in CEE.

5.   CONCLUSION

HRIS as computerized tool for systematic procedure for managing data about human resources, personnel activities and organizational characteristics has several advantages for the organization. Benefits of integrated HRIS include improvement of administrative but also and strategic HR activities, increase of the speed, reliability and accuracy of information, etc.

In this paper authors made the analysis of the usage of HRIS in organizations that operate in the CEE region. Main conclusions derived from the analysis are:

- CEE organizations usually use HRIS as a single independent system (33.5% of total number of organizations), and as a system that is included in wider MIS (25.9% of organizations). Beside these, in CEE organizations HRIS is in use also as a number of separate tools for HR functions (14.5%). 26.1% of the organizations do not have HRIS at all.
- HRIS is used mostly for administrative activities such as time registration and attendance (77.6%) and personnel records (98.2%). Also, HRIS is commonly used for compensations – 83.3% of organizations use IS for payroll and 93.9% for benefits. Generally, in organizations in CEE region HRIS is still used at low level. This usage is low for HR performance measurement (only 26.3% of organizations), career planning (21.6%), performance management (37.6%), and recruitment and selection (32.1%). In case of training and development and work scheduling the usage of HRIS is around 50%.
- Self – service options for managers exists only in 32.9% of all organizations while employees self – service exists only in 17.8% of all organizations. Self service options are not included in HRIS in organizations in CEE.
- Generally, HRIS is at the lower level of usage for HR activities in organizations from CEE. Most of the organizations use HRIS for administrative activities, and do not have well developed IS for HRM.

At the end of the research on HRM information system functions it is necessary to point out that the success of the implementation HRIS depends primarily on people – whether employees understand the importance and benefits of these changes. Manager' task at all levels is the construction of such organizational culture that supports changes and it is open to the proper implementation of the new technology.

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