Human Resource Information System Contributes to the Management of Competence and Knowledge

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ABSTRACT

This working paper presents the procedures of the planning and implementation of a human resource information system (HRIS) that was carried out in an educational organization in Finland during autumn 2008 – spring 2010. The organization provides both vocational upper secondary education and higher education and has 1620 employees.

The aim of the HRIS acquisition was to get flexible electronic tools for human resource development (HRD) practices to be used by human resource (HR) professionals, supervisors and the employees themselves. The system consists of the essential processes needed for human resource development and the full exploitation of available resources. The system covers the management of the entire working life cycle of an employee from the planning of the recruiting phase all the way to the end of employment. The system includes, for example, processes like recruiting, competence analysis, continuing professional education management and mentoring.

The theoretical framework for this study, and also for the approach of HR practice, is in the strategic human resource development and management (Hall 1984; Kirjavainen & Laakso-Manninen 2000) and knowledge management theories (Laakso-Manninen & Viitala 2007; Nonaka & Takeuchi 1995; Sveiby 2001). Sveiby (2001) defines knowledge management in two ways: management of information (knowledge = object that can be indentified and handled in information systems) and management of people (knowledge = processes, a complex set of dynamic skills etc. that are constantly changing). Knowledge management consists of a variety of practices that are used to identify, create and present organizations and their personnel’s competences and experiences.

Information and communications technology (ICT) enables new ways of producing, searching and sharing information and knowledge. As the amount of information is rapidly increasing, it has become even more important to manage complex entities and to recognize relevant and reliable information and knowledge. HRIS enables, for example, more advanced ways to competence management, which can promote an organization to identify its strengths and weaknesses and to anticipate future competences. ICT also allows the personnel to recognize their own competences and to make them noticeable. HR practices and HR work become more adaptable and efficient and thus take into consideration the personnel’s needs and expectations.

This paper highlights the different aspects (e.g. benefits and challenges) of the HR information system implementation. HRIS enables HR professionals and supervisors to manage complex
information entities and to plan human resources efficiently. Therefore, the contribution to the management of competences and knowledge is significant.

**Keywords:** Human resource information system, strategic human resource development and management, knowledge and competence management.

1. Introduction

Skilful, motivated and wealthy personnel are the prime resource of an organization. Professional excellence (competence) has become a critical strategic factor for the organizations’ success. A human resource development system should always integrate the organisations’ core competencies, knowledge base and the personal dimensions. A competence-based strategy sets the frame and direction for human resource development. (Laakso-Manninen & Viitala 2007).

Information and communications technology (ICT) enables new ways of producing, searching and sharing information and knowledge. Knowledge management information systems are tools to affect the management of knowledge. For example, competence analysis, development discussions or recruiting processes become more controllable when the information is stored electrically in one place.

This paper presents the procedures and aspects of the planning and implementation of a human resource information system. The aim is to show how HRIS can provide tools for improving human resource development processes. The main focus is in the practice of HRD and HRIS. The theoretical framework creates the basis for the planning and implementation of the system.

2. Strategic human resource development and management

The theoretical framework of this paper is based on the framework of strategic human resource development and management. Human resource management is the process of developing, applying and evaluating procedures, methods and programs related to an individual in the organization (Miner & Crane 1995, 5).

In Mintzberg’s definitions (1994), a strategy is considered as

- a plan, or some consistently intended course of action,
- a pattern that emerges over time,
- a position that provides for competitive advantage,
- a perspective or abstraction that exists in the minds of people.

The human resource strategy has a significant role in supporting the implementation of the strategy of an organization. According to Laakso-Manninen & Viitala (2007), strategic human resource management seeks an answer to the question: How does an organization plan, organize, control and develop human resources to carry out its strategy and to renew its competitive position? In Hall’s (1984) definition, strategic human resource management is in tight relation to organizational strategies in the perspectives on future.

The four dimensions of the human resources strategy of the Lahti Region Educational Consortium (Päijät-Hämeen koulutuskonserni 2005) follow the dimensions of the balanced scorecard (BSC) (Kaplan & Norton 2001). The dimensions are 1) effectiveness of personnel policy and human resource management, 2) workplace well-being and competence development, 3) human resource processes and 4) human resources.
The development objectives for each dimension are decided by a participatory process every second year. The dimension ‘Workplace well-being and competence development’ contains development issues such as the competence analysis of the personnel, development discussions, continuing professional education and training etc. Development practices are derived from these issues and they are examined in the overall development system in parallel with the issues of the other BSC dimensions. (Siikaniemi & Haapasila 2008).

3. Knowledge and competence management frameworks

The knowledge management literature defines many different perspectives on knowledge and knowledge management. Knowledge management can be defined in two ways: management of information (knowledge = object that can be indentified and handled in information systems) and management of people (knowledge = processes, a complex set of dynamic skills etc. that are constantly changing). Knowledge management is also seen as a process of knowledge creation, validation, distribution, presentation and application. (Sveiby 2001; Bhatt 2001).

Nonaka & Takeuchi (1995) describe knowledge as being primarily tacit, something not easily seen or expressed. Sveiby (1994) emphasizes that individuals acquire, form and transfer knowledge and create their own process of knowing. By that process, individual actors create what they perceive as the organization’s knowledge. Sveiby also highlights that knowledge is social. Socially shared knowledge blends with the individual’s experience of reality. New experiences are always assimilated through the existing concepts that the individual disposes. Knowledge management can therefore been seen as a systemic process for acquiring, organizing and communicating both the tacit and explicit knowledge of the employees.

Berio and Harzallah (2005) define competence management with four processes: 1) competence identification (present and future competencies), 2) competence assessment, 3) competence acquisition and 4) competence usage. According to Laakso-Manninen & Viitala (2007, 42-43), competence-based human resource management asks:

- What kinds of people are needed and to what amount (quantity, education, competences)?
- How are the required competences to be acquired?
- How to recruit the best people?
- How are personnel competences developed (training, evaluation and development systems)?
- How to efficiently support and guide employees in the use and development of competences?

The key to understanding competence management is to understand personal learning and competences. Laakso-Manninen & Viitala (2007) suggest that people build their knowledge and competences for their own reasons, within their own fields of experience and within their own social environments. The key issue is how the organization plans, manages and develops its personnel so that it could realize the organizational strategy.

4. Human resource information system

A human resource information system is a system used to acquire, store, analyze and distribute information. Surveys indicate that the three most electrified human resource functions are payroll, basic employee records and recruiting (Hahn & Subramani 2000; Miner & Crane 1995). Nowadays, it has become even more important to manage complex entities and also to evaluate and manage different competences. The current systems enable to manage the entire working life cycle of an employee from the planning of the recruiting phase all the way to the end of employment.
The HRIS can also be seen as planning systems, because they provide the kinds of information that is needed to plan change in e.g. employee amount, competence needs, educational structure and age structure.

Bhatt (2001) highlights a very significant perspective about managing information through information technologies: ICT is a weak substitute for converting information to knowledge. The conversion of information into knowledge is best accomplished through social actors, that means to optimize the technological and social subsystems.

4.1. Human resource information system planning process. Case: Lahti Region Educational Consortium

The competence management framework creates the basis for the HRIS implementation process (Figure 1). The framework constitutes of the competence management entity and the basis is in strategic human resource management. There is also a strong link to the implementation of the strategy of the organization. (Siikaniemi 2009.)

![Figure 1. Competence management framework (Siikaniemi 2009).](image)

The aim of the HRIS acquisition in the case organization was to get flexible electronic tools for HRD practices to be used by the HR professionals, supervisors and the employees themselves. The benefits that the software will provide for the HR professionals and supervisors are primarily in overall knowledge and competence management processes, compiling statistics about the personnel (for the needs of the organization and authorities), planning of the human resources and coordinating and managing information. The system will support supervisors in their everyday management work when all the basic employee data is easily available in one system. Secondly, the system allows the personnel to evaluate, recognize and bring out their own competences and to describe development needs and plans.
The planning process began by defining the functional and technical requirements for the system. The definition of the functional requirements was based on the competence management framework (Figure 1). The integration to other systems (e.g. payroll, educational administration system etc.) and possible data transferring opportunities were taken into consideration. The privacy issues and information security were also considered through 1) observation of data validity and protection of data, 2) limiting access and 3) procedural security (e.g. procedures for backing up data, prohibiting sharing passwords etc.). The planning group consisted of experts from the department of human resources and department of data administration. The process was led by the director of human resources. After defining the requirements the invitation for tenders was released.

4.2. Human resource information system implementation process

The HRIS implementation process was realized in phases during autumn 2009 – spring 2010. The implementation project consisted of 12 process workshops, where HRD processes were adapted to the system. The main processes of the HRIS are presented in Figure 2. The general system technology, system integrations and functionality were also discussed. The implementation project group consisted of substance experts (theme under discussion), experts from the department of human resources and department of data administration and the software supplier (Atbusiness Ltd).

![Figure 2. The main processes of the human resource information system (Atbusiness 2009)](image-url)
The first pilot groups were a group from the field of restaurant services and the social and health care department in the Lahti University of Applied Sciences. The restaurant services personnel tested the competence analysis software and the personnel from the social and health care department piloted the development discussion part. The other parts of the system were also piloted during the implementation project.

Besides testing the functionality of the system, the objective of the competence analysis was to identify and utilize the current competences and to recognize future competence needs. Laakso-Manninen and Viitala (2007, 60) suggest that a key benefit of competence assessments is that they enable the people assessed to become more aware of the current state of their competences as well as development needs. The systematic competence analysis also helps to ensure that the employees’ competence development is in line with the aims of the organization.

The feedback from the pilot groups was mainly positive and the reception for the system in general has been approving. The system will be available to all personnel in autumn 2010. Supervisors and employees will be trained to use the system. The development work will continue after the implementation project and usage feedback will be considered when making improvements for the system in the future.

5. Discussion

Nowadays, when competent personnel have become an organization’s prime resource, it is more important than ever to manage knowledge and complex entities and to be aware of the future competence needs. A human resource information system provides several opportunities and tools for producing, searching and sharing information and knowledge. The system also enables to evaluate and report information to be used, for example, in human resource planning or the anticipating of future competence needs.

Although HRIS provide many benefits for the HR professionals and supervisors in managing knowledge, there are also challenges to be considered. The usability of the system has to be guaranteed, and the technology always requires a social subsystem to support it and to function efficiently. The ensuring of data validity and protection of data are highly important when managing specified and partly confidential information. Another challenge is to activate the personnel to utilize the system and to be interested in developing their own competences.

The HRIS can provide significant value for the organizations’ human resource management and development if the system’s potential is recognized and it is utilized for the right purposes. The availability, management and validity of data make the HRIS a truly significant and useful tool for overall human resource management and development work.
REFERENCES


