TOOLS AND SOFTWARE FOR HUMAN RESOURCES MANAGEMENT

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Abstract

Aligning human resource management in Romania to the existing requirements and standards of the EU market aims at rapid integration of new trends in technology and communications.

This is represented by the transition from information society to one based on knowledge, by implementing specific technologies such as ERP (Enterprise Resource Planning), SCM (Supply Chain Management), CRM (Customer Relationship Management), document management and workflows, management of quality in IT (Information Technology), e-Business, eLearning and other techniques on working under Internet platforms.

Also, a requirement for such a decision, with high current worldwide is to use tools for solving specific managerial situations of human resource management. Therefore, our approach aims to reveal some aspects of human resource management and computer-aided methods and techniques to optimize decisions. Our references aim at taking algorithms and economic models - mathematical complex, such as those derived from fuzzy theory in artificial intelligence techniques and development of software products that enable their application to typical levels of decision problems.

Keywords: *ERP, information, knowledge, fuzzy theory, software products, optimization of decisions*

JEL Classification: M1, M12, M15

Introduction

Throughout human history information it was vital, but today access to information and its correct use is the key to business development. In an era of the Internet, when every software can be accessed by any user interested in the difference between performance and applications may be outdated or incorrect path to successful disaster. The need and desire for knowledge are essential in management activity. The power of knowledge and the fact that the business environment is guided by a new motto - "Knowledge is power" - reflects current period of transformation in the economy, namely that top positions are occupied by those who have the knowledge. Now there is a huge amount of works in this field – articles, books, reports which provide not only new scientific information, but also practical recommendations for companies on how to improve their management and results using Intangible Assets. Among them are such famous works as (Prusak, 1997; Davenport, Prusak, 2000), (Nonaka, Takeuchi, 1995), (Stapleton, 2003), (Stewart, 1997) and others.

What determines the success of a company is the value generated by knowledge-based intangible assets (Petty, 2000). For converting information into knowledge and knowledge into information a company needs human resources to generate models, norms, rules (Iancu, Burciu, 2015).

Both in its heyday in the recession and companies want to achieve maximum revenue leading a policy of optimizing processes by increasing efficiency and economic changes. (Iancu, 2016). This can be achieved through a rigorous selection of personnel working in the company.

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2. Mobile Knowledge management and human resource

Modern management, which can be called Mobile-Management (M-Management) involves an adaptation of his classic functions to new information and communication technologies (ICT) that slowly but surely beginning to have an essential role in the economy.

One of the first explicit statements of the concept of human resource management (HRM) was the school Michigan (Fombrun et al., 1984). The authors of this statement reporting that HR systems and organizational structure should be managed in a manner consistent with the strategy organizational.

Parents founding HRM (1984), of the Harvard school, took on what Boxall called "general pattern Harvard".

After Ulrich and Lake (1990), "can be the source HRM systems that allow companies organizational abilities of learning opportunities and threats and explore new possibilities." John Storey generally thought that HRM can be seen as the "grouping of related policies, with an ideological foundation and philosophical."

Bontis (1998) says: "human elements of the organization are capable to learn, to change, to innovate and creative enthusiasm ensure that, when found appropriate motivated, can guarantee long-term survival of the organization."

Mobile Knowledge Management (MKM) is an advanced form of knowledge management, which involves the gradual replacement of bureaucratic activities performed by the electronic physical-digital intelligent terminals made through Information Communication Technologies (ICT).

MKM has Intelligent Soft and Know How. Features an intelligent software management are: availability, reliability, flexibility, adaptability, updating, stability, scalability, security, interoperability with other software standards, flexible access to resources, creating value at minimum cost, managing rapid use and control simple under total mobility.

M-KM it knows different forms and styles customized, flexible management and is a multi-user, multi-program, multi-project, multi-lingual, multi-disciplined and multi-lateral. Permanent means adapting leadership style to the dynamic environment of competitive firms with physical or virtual presence in the market, survival is contingent upon how quickly respond to stimuli and external factors, as well as sudden changes. Uncertainties and risks, reactions to these factors can be mitigated or even eliminated by using ICT. The increased use of electronic communication technologies have the effect of reducing the direct human contact and create important changes in the business sphere, ensuring increased effectiveness and efficiency.

As work style, M-KM using mobile working, the classic style of work - face to face - is replaced by a new style - mobile teleworking - such digitization bureaucracy reduce inefficiency, reinforces impartiality, neutrality, credibility and trust in business relationships . MKM style is defined by the manager's ability to inform, communicate and conduct business via the Internet and ICT, being connected anywhere, anytime. Added to this is the ability and knowledge in the field of ICT and eTools sites that mediate the creation and use of a collaborative system whereby audio-view quickly and easily documents (e-mails, files, diaries, reports, etc.), but also to create and maintain relationships with partners (customers, suppliers, investors, employees, staff, etc.). Using information and communication technologies users print a personalized style of driving, work, and private life.

4M technologies - Mobile Multi Media Management is growing increasingly as a result of increasing applications and operations management activities multimedia, digital

libraries and online, and users. Electronic documents gradually replace the classic ones, as a solution to problems such as optimizing operational-technical and work convenience.

Human resource management involves activities such as:

• personnel management - recruitment, selection, adaptation post, induction and socialization, mentoring, internal promotion, leaving the management organization;

• Performance Management - performance evaluation, feed-backs reached or not personal goals, team or organizational rewards and benefits;

• organizational management - defining positions and the organizational structure, areas of responsibility, training teams or work groups and training employees;

• communication management - activities involving employees in decision-making, communication development, preservation of procedural fairness and organizational ethics.

Information technology (IT) solutions are a prerequisite for an efficient management of human resources.

3. Information technology systems for human resources

Considering the importance of human resource management for companies, systems must have the capacity for more efficient operation and integration of diverse information flows.

IT solutions for HR functions must have devoted to assessing employee performance and efficient management of training. Also for recruitment processes are generally allocated significant resources, specialized computer systems can substantially contribute to reducing the cost of these processes.

In recent years, human resource management solutions market has seen a significant evolution, growth in volume of this IT sector has been accompanied by diversification and raising the quality of human resource management systems. "Metamorphosis" produced in human resources applications was certainly a result of user requirements such solutions and an acute need for more detailed information on human resources in companies.

One HR solutions market trends lies in deepening their integration with systems such as ERP (Enterprise Resource Planning) within companies. Thus, they developed specialized modules that are fully integrated within the systems. Integrating such applications in ERP systems is especially a requirement for payroll modules, thus being assured a high level of efficiency in workflows and financial information. This will be automatically generated accounting transactions in financial modules of ERP system or can be performed payments to employees.

Databases and data warehouses are a ubiquitous element in various fields. Whether we talk of solutions ranging from ERP (Enterprise Resource Planning), is it other categories of applications, the cornerstone of their operation is the management system database. Another important thing to be offered such solutions is the possibility of developing simple reports based on information contained in databases.

Given these considerations, more companies have ERP solutions portfolio developed specialized modules for data analysis and synthesis of information from human resources management. Integration of BI (Business Intelligence) solutions advanced database reference on the market has allowed companies to implement efficient data processing functions for accumulated.

Also, many ERP products available on the market in Romania have an extremely strong reporting component that ensures that the statements out of business information system needs.

Integration of instruments synthesizers for the conduct of business processes is another feature for applications of this type. Through "control panels" of ERP applications, managers can make decisions in real-time for HR managers.

Whatever the field which is dedicated computer system (economic, social, scientific, etc.), system architecture was imposed as a condition sine qua non for providing accessibility as major information resources offered by the management of databases. The spread of the Internet, combined with the increasing need for mobility and accessibility acute, led to the generalization of this architecture in human resources applications.

There is a wide range of practical software solutions, which are differentiated by the degree of automation of human resource management. Thus, while some applications mainly focuses on one aspect of the work manager human resources (applications for payroll, employee management applications), aimed at providing more complex tool, ERP. Personnel selection is an area that can provide elements for easy deployment and objective process. Frequently, the company personnel selection takes place in two stages: the first stage is intended for application tests and the second interview with the candidates allocated. In the first stage since the application tests is a matter of evaluation could facilitate the evaluation process. The idea is that tests can be built on four areas frequently used - knowledge, intelligence and personality skills - with software for extracting test items from files created for each four areas (Iancu, 2013).

4. The structure of a decision-making system

In this part of the paper mainly developing simple architecture of a model of decision-making system, which is based on the findings presented above. Methodology classical design, in which determine the original system specifications and then proceed to design and construction system that meets these specifications is expanded, the methodology by successive refinements of information and representation of knowledge, and through the concrete continues to classes and decision-making.

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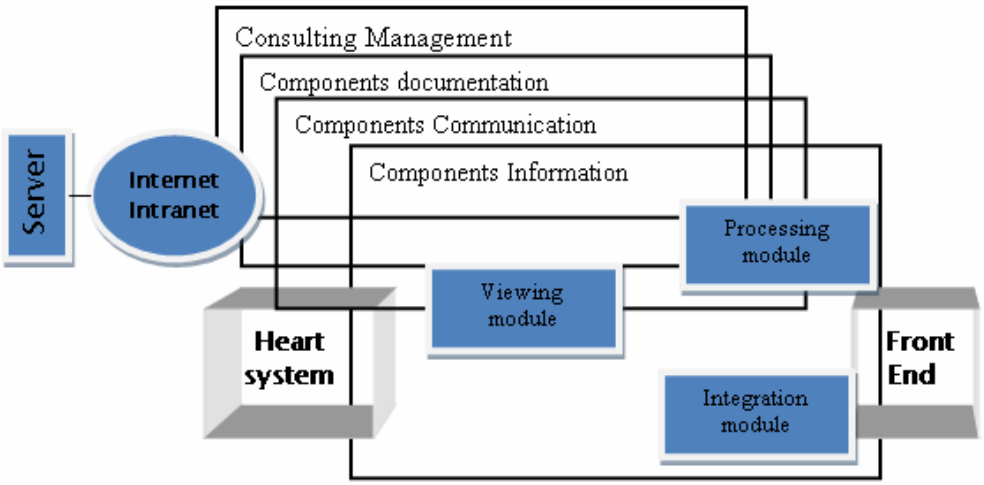

Figure 1. The concept of an architecture overview

Especially new theoretical considerations and requests and new findings, resulting from intense communication with various partners from practice, have a decisive influence on the whole decision-making system.

Figure 1 shows the overall architecture of an embodiment of a decision-making system from a company that can be adapted to the local requirements.

The system, through its components, may contact the company's databases, import, edit, and save personal documents, and to provide communication capabilities to connect processes of discussion and synchronization.

The model itself consists of the following components:

• The core of the system that ensures, on the one hand, the provision of formalisms for representing and secondly achieving effective connection to the Internet and intranet. Even the competence encrypting information system kernel;

• Front-End site provides users viewing content and data entry;

• Consultancy controlling user rights management, consultancy generates an archive and a calendar of activities to adapt and watching classes decisions possible contextual ordered everyone acting in the system and makes verbal communication with users;

• Documentation components are tasked to manage both the work and decisions of the archive. In addition, components of documentation submitted through core information system connected apps enforcement of decisions;

• Communication Components have the power to prepare the way of communication and availability of required framework;

• Informational components perform all actions that are necessary for processing information:

(1) The information content integration company representative that emerged as a result of autonomous development;

(2) integrated information processing calculations, forecasts and simulations;

(3) Adequate disclosure of the information results.

Solving these tasks include representing functions for forecasting, decision models and capacities of knowledge, which outlines how to integrate information.

Figure 2 illustrates four basic components subcomponents submitted. Modular Structuring in this context creates the premise for the integration of a development for managers. Thus should be considered core components and their interactions between concrete modules, between methods and knowledge. Only if the prototype system is entirely designed, developed and tested, then analyze interactions between components, modules, methods and knowledge that can be done efficiently.

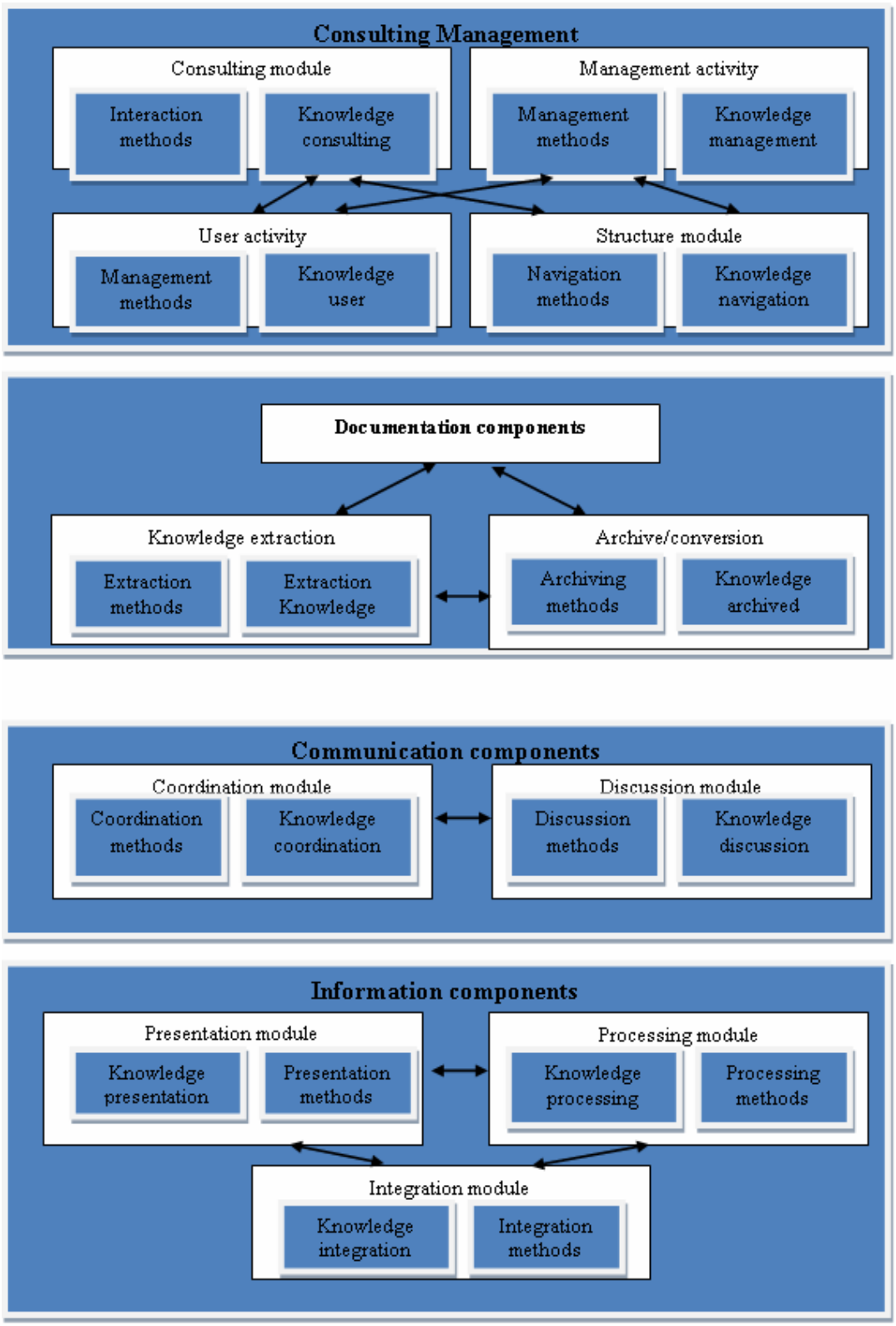

Figure 2. Structure of the basic components of the model the company's decision making system

Figure 2 specifies the internal structure of four basic components and subcomponents interactions between them. The integration verification procedures can guarantee a high quality of information enhancing defined in this way, quality of decisions.

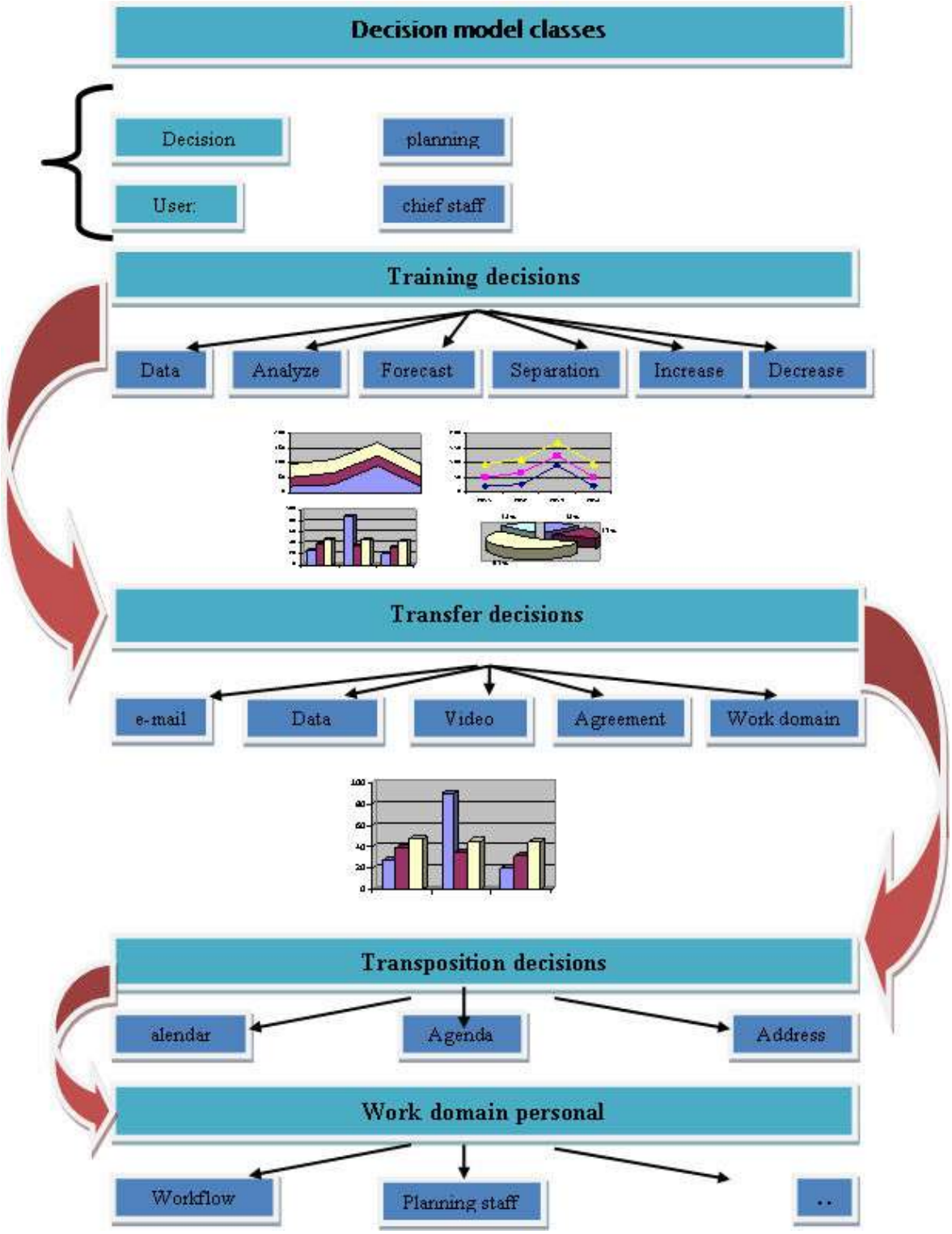

Figure 3. Class decision concerning human resource

Selecting concrete decisions takes the user to the core prototype. According to Figure 3 is a presentation of supply of relevant information that can surf the decision maker and the availability of means of communication, offering the necessary support to discuss alternatives of action for procurement of information and to grant decision-making processes. The user receives access to the personal activity, which finds all notes and documents accompanying the appropriate processes and is able to manage with tools

deadlines and addresses. For implementation of decisions at its disposal also aids which have yet to be specified by a decision to another.

Conclusion

Although there are many points divergent approaches specialists, ERP systems have a number of common traits when implemented in the HR function:

1. They are developed according to objective criteria such as the function, which gives them flexibility and easy capacity redesign in terms of endogenous or exogenous factors change the organization.

2. There is 'open' because it integrates a large number of entities in the external environment of the organization (customers, suppliers, financial and banking organizations, other economic agents etc.).

3. From a technical standpoint, works on a client-server architecture in which information is managed on a central station accessed by users using a rule of Internet / Intranet, which provides a number of advantages: keeping the and data integrity; concurrent access to the same resources; maximum availability of services regardless of the physical location of the resource or user.

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