

The Contribution of the Human Resources Information System to Human Capital Performance Management within the Organization

Dan Constantin Vărzaru

University of Craiova, Faculty of Economics and Business Administration,
varzarudan@yahoo.com

Anca Antoaneta Vărzaru

University of Craiova, Faculty of Economics and Business Administration,
varzaruanca@yahoo.com

Abstract

Most of the management specialists evoked the manner in which informatics sustained the human resources structures in their efforts of emancipation, considering it a factor of progress through its positive effects on productivity, of service improvement and quality decisions, of connection strengthening, of delegation of competences across the entire enterprise and in increasing their forecast capabilities.

The development of relations between management and human resource information system in its search for organizational performance allows to better understand their past and present and the anticipation of future developments which are beneficial for the enterprises that want to better face new challenges such as quality concepts, social responsibility and sustainable development. Such an approach is the subject of this paper which aims to reveal his way of emancipation of the human resource function and the manner in which participation may rely, i.e. quantifying and increasing the added value to your business.

Key words: human resources, information system, newly created value, performance, measurement

J.E.L. classification: M12, M5

1. Introduction

Computerization is generally perceived as an organization action that corresponds to a particular inventory and management objective. In management, the same set of tools can produce different results, depending on the ways they are set into practice. The quality of an approach is just as crucial as the tools that are being used. Therefore, from the perspective of the inventory specialist, it is not information science, but computerization that matters the most, namely the action of automating the set of operations of a particular activity in the aim to achieve better efficiency. Any information system consists in both formal and informal components. The formal information system is visible by means of the documents it generates by applying explicit rules and procedures. As far as the assignment of organization roles, functions and tasks are concerned, the information system is less dependent on the individual. The informal information system, which is just as crucial for the enterprise, leaves less visible traces and focuses on looser rules and implicit procedures.

Should the expansion of information science within a particular field of inventorying face any difficulties, this is due to the efforts of extending the formal portion of the information system. This extension involves reflecting carefully upon the best ways in which to organize, and more importantly, to clarify and access information and the operating rules. Automation also involves promoting an action of change. The automation of human resources activities has a specificity of its own, in the sense that the information on individuals cannot be treated the same as information on objects given the existing rules of confidentiality that protect them.

2. The human resources activities and their corresponding data processing applications

In the recent years tendencies reveal the pursuit of enterprises to achieve the highest level possible in human resources management, owing to a more intensive integration of its activities and functions and to the contribution of new information and communication technologies.

Typical human resources programs integrate aspects such as financial bookkeeping, recruiting, selecting, training staff and the relationships with and between employees, as well as financial compensation but, not all these programs entail multiple activities, and the human resources activities can be classified into basic categories: transactional, traditional and transformational (Wright, McMahan, Snell and Gerhart, 1998, in Vărzaru, M, Vărzaru D.C, Ogarcă, R.F, 2014). Transformational transactions enhance the strategic importance and the exposure of an organization's human resources function. As illustrated in diagram 1, this gradual change becomes gradually more apparent as one follows the historical evolution of the operation and the human resources management throughout the five stages of the industrial advancement in the USA.

The majority of human resources departments spend around 65–75% of their time carrying out transactional activities, 15–30% carrying out traditional activities and 5–15% carrying out transformational activities, was estimated by Wright et al. (1998). The main advantage of designing, developing and implementing a human resources information system consists in the ability to save time when handling transactional activities, so allowing the employed staff to allocate more time to traditional and transformational activities. Regarding the mission of human resources management, Ulrich (1998) assigns to it four fundamental roles: strategic business partner, administrative expert, champion employee and exchange agent.

Figure no. 1. The historical evolution of human resources management

The role of human resources management

The beginning of the XX century	The XXI century
Decision maker	Strategic partner
Focused on the employee Recordings	Cost efficiency Staff development

Source: *New mandate of human resources*, Harvard Business Review, Vol. 41, No. 1, p. 126

Ulrich, Younger and Brockbank (2008) emphasize the fact that in the XXI century the human resources function should operate as a business within another business. To achieve that, it becomes necessary for the said function to place its activities in the background in order to focus on results, capabilities and its own structure so that it can achieve the most accurate projection possible for that particular business.

Gilbert (2003) considers that the procedure of automating the processes specific to the human resources function remains within the reach of traditional and transactional activities, while the efforts to involve it in the realm of decision-making, although intensive, have failed so far to produce the anticipated outcomes. When describing the applications characteristic to management automation and human resources administration, the author accounts for three distinctive groups, namely the generic ones: the internet, the intranet and the decisional instruments.

3. The evolution of the human resources- human resources information system tandem

An analysis of the studies conducted in the last 10 years reveals that a large majority of authors envision the different evolution stages of the human resources information system based on a similar temporal pattern. According to Just (2010) it is possible to draw the history of the human resources information system by means of two courses of evolution. The first one is the evolution of human resources management, the second one is the automation of the human resources function. Furthermore, Silva (2008) adds the evolution of newly developed information and communication technologies.

Just further classifies the evolution of the human resources function into seven different stages, starting with 1870-1900 (it is the owner who exercises the function, which doesn't exist in its classic sense), 1900-1914 (the emerging of the function, Taylor), 1914-1918 (the development of social regulations, training, recruitment, apprenticeship), 1918-1945, 1945-1960 (the thirty glory years), 1960-1980 (social legislation continues its development, other aspirations emerge among the population – communication and fulfillment, the pursuit of work satisfaction), after 1980 (an increasingly strategic function owing to the decelerated pace of the economic growth, the development of international competition and technological mutations; the function is perceived as being strategic and, in order to accomplish its goals, it needs to work with the operational responsible persons).

Just (2010) suggests drawing up a parallel between the evolution of the human resources function and the evolution of the human resources information system:

The stone age: the payment program. In 1960, the computer replaces mechanography. Between 1970-1980, the users become better acquainted to information science and begin to orders. During this period, there emerge the first parameterizable applications and the payment package.

The bronze age: the human resources program. In the mid 90's there emerge new problems along with the increasing complexity of handling payment. The payment has to be fed through other peripheral systems and the editors diversify their offers by enriching them with innovating processes. There emerge inquiry instruments and the era of information science culture begins. By the 1990's, payment handling has made significant progress, and so has the management of time and activities. The administrative management of the staff represents the driving force of the human resources information system. Training is the new resultant.

The iron age: the human resources information system. Starting with the year 2000, there emerge two types of architecture within the enterprise: the individual program or the merging of multiple specialized programs by means of a common interface. These two architectures enable, either in the same manner or by different approaches, the managing of the integrality of human resources processes. This point in time marks the dawn of the "e-human resources" era, which opens up the access for new different actors. By the year 2000, new driving factors come to revolutionize the world of the human resources information system: the fear of the demographic shock and the uncertainty of resuming the activity. This last tendency drives the leadership of human resources to become involved in employee mobilization, which goes through a stage of better understanding competencies. Consequently, the difficulties posed by the recruitment render internal mobility as an important priority.

The gold age is currently in progress, although numerous uncertainties arise. As the human resources information system has been explored and harnessed to its full potential, technological breakthroughs still emerge, which will continue to unsettle the function. The new requirements are now connected to the communication possibilities through an increasingly complex interface. The answer to these requirements is likely to come from the service-oriented architecture (SOA), i.e clipping the functionalities of an application or a system into "profession/position (job)" services that can be reused as part of other applications or systems.

New horizons for the human resources information system are brought about by its capabilities to open up to a multitude of actors. At first the human resources information system was accessible only by trained users and now its "open" variant is on the brink of becoming a system that can be accessed by everyone. Kavanagh (2013) offers a retrospective in terms of the stages retained in the historical evolution of the human resource management and its information system. The analysis encloses the development of human resources and the means of information and communication in terms of their evolution and interconnectedness since the beginning of the XX century. She describes the way in which the information and communication technologies have played an increasingly important role in the management function and in managing human resources.

1. *Before the World War II.* At the beginning of the XX century and the Second World War, the personnel function was limited to holding a basic inventory of staff information. The law initiatives in the field were scarce, so that the leadership departments of organizations drew up the employment terms and the work practices and conditions themselves. Some employers set the grounds for social work (labor welfare) and established administrative departments to defend the interests of the workers by recording information on healthcare and safety, but also on working hours and payments (Vărzaru, D.C., Vărzaru, A.A, 2015). We have to acknowledge that the written bookkeeping is one of the major functions of the human resources information system, since at that time there was no computer technology to assist in registering data. Recordings on paper, which many small companies still employ today, were widely spread.

2. *The 1945-1960 period.* There was the need to categorize the large number of individuals in the military service during the war, which emerged into occupational categories, undertaken to improve the process of recruitment and the selection of procedures. The main aspect of these classification systems was the job description, which could also be used to design adequate repayment programs, to assess the performance of each individual and to provide a basis in the event of a potential separation from the individual. The labor unions, which were established as a response to the often abusive work practices before the war, led to the issuing of a sensible number of labor laws in the USA, so that the staff departments began to carry out more record and reporting work to satisfy the requirements of government agencies (Vărzaru, D.C., Vărzaru, A.A, 2015).

The staff department began to maintain an increasingly larger number of employee records, and the information science technology was being considered as a potential solution to recording and gathering information about the employees. In some cases, for instance in the defense industry, the job analysis and the

classification of information were being compiled into computers in order to better understand, plan and make use of the abilities of each employee according to the needs (Vărzaru, D.C., Vărzaru, A.A, 2015). During this period, the staff structures outside the defense industry usually only used electronic computers for billing and inventory control. These computers were rarely used inside the staff function, with the exception of setting up payrolls.

3. *The 1963-1980 era.* The increasing number of law implementations for regulating the labor law in the USA led to a burdening of the staff structure with the additional responsibility of conformation, which involves efforts of collecting, analyzing and reporting huge amounts of data to the state authorities (Vărzaru, D.C., Vărzaru, A.A, 2015). Therefore, it became mandatory the need for automating the processes of data gathering and analysis reporting. The staff compartments were being gradually referred to as human resources compartments, which marked the emergence of the human resources management field. However, the pace at which the staff compartments were adopting computer technology was slow, despite their cost-effectiveness compared to the computation power they offered by storing and accessing information on the employees and their capability to generate efficient and effective reports specific to information management systems. During this period the main obstacle in the development of HRIS mostly consisted in the need to identify an optimal method for the implementation of such systems, and less in the necessity of such systems or their technological capabilities.

The age of profitability (1980 – the beginning of the 90's). On the premises of the intensified competitiveness of the asian and european economies, the companies in the USA and other multinational companies focused increasingly on the reduction of costs by means of automation measures, as well as other measures aimed at boosting productivity. To the managerial level there emerges a belief that the entirety of human costs represents a substantial segment of a company's budget. Certain companies estimated that their personnel costs rose up to as much as 80% of the operation costs amount. Consequently, there was a clear need for the human resources management to be able to justify effectively the costs attached to the human resources function (Vărzaru, D.C., Vărzaru, A.A, 2015).

The age of technological progress and the emergence of strategic HRM (1990 to the present day). The economic context suffered radical changes over the entire decade of the 90's, since the intensified globalization tendencies, technological progress and hypercompetition. From that point on, organizations have become aware of the fact that innovative and creative employees, which hold the key to the organizational expertise, represent a sustainable competitive advantage (Vărzaru, D.C., Vărzaru, A.A, 2015). This happened because, unlike other resources, they represent a type of capital difficult to replicate by the competition. Therefore, HRM become strategic owing to its importance and to the perspectives that opened up for it, and focuses on attracting, maintaining and using professional talent. These breakthroughs led to the creation of balance scorecard-based performance assessment systems (Becker, Huselid & Ulrich, 2001; Huselid, Becker & Beatty, 2005), which greatly emphasize the importance of the return-on-investment factor in human resources and its corresponding programs (Cascio, 2000; Fitz-Enz, 2000, 2002). Reflecting this perspective centered on resources, Becker and Huselid (2006) point out to the importance of the human resource structure and its system, as well as "the systems, methods, competences and the performance-centered conduct of the staff, which reveals the development and management of the company's strategic human capital" and its importance in achieving organizational performance.

The present context constitutes a crucial element in human resources management. Because of that, researchers have been focusing increasingly on the "best-fit" approach in the strategic human resources management as opposed to the "best-practice" approach. The success rate of the strategic human resources management depends on a number of factors, including the national and organizational culture, the size of the organization, the type of industry, the occupational category and the business strategy. Becker and Huselid (2006) are of the opinion that "the main prerequisite for the human resources management to contribute in achieving competitive advantages consists in the agreement between the human resources architecture and the strategic abilities and processes that translate the business strategy into practice".

4. Assessing human resource performance- the contribution of the human resources information system

Another crucial issue pertaining to strategic human resources management consists in adopting and using business performance measuring systems in the field of human resources (Cascio, 2000; Lawler & Mohrman, 2003). Every department of an organization (production, marketing, financial, etc.) has been using performance measurement systems for decades due to the nature of their business transactions. As far as the human resources management is concerned, however, the focus on measuring the cost-efficiency of programs is a relatively new issue. Although business performance assessment systems have only been used

in recent years, they have been spreading widely and have gained a lot of importance in the field of business, as organizations are becoming increasingly preoccupied with competing efficiently on a global level.

Kaplan and Norton (1996) have contributed to the popularization of the concept of BSC performance assessment, which is not limited only to the traditional financial measurements for assessing the performance of the company, but also cover for internal and customer-oriented processes and for the prospect of building professional abilities. Integrating the criteria of the approach centered on BSC performance measuring instruments, Beatty, Huselid and Schneier (2003) have developed assessment instruments that are specific to the field of human resources, in order to achieve turnkey deliverable products for the specialized structure (workforce mentality, technical knowledge and workforce behavior) by aligning, integrating and precisely classifying the human resources systems.

Furthermore, Lawler, Stevenson and Boudreau (2004) have identified three types of business performance measuring systems with a crucial role in assessing the human resources function. The first type refers to systems for measuring efficiency, which are aimed at assessing the specific "time to fill" tasks – the time resources needed to fill existing job vacancies. The second type refers to systems for measuring effectiveness, which target the human resources practices with a direct influence on the costs involved by filling existing job vacancies. The third type refers to system for measuring the impact of human resources programs and practices focused on fulfilling the general objective of developing and optimizing workforce abilities and competencies. The latest development in terms of measuring systems pertaining to the role of human resources as part as strategic human resources management consists in deploying Six Sigma information systems processes. In general, the Six Sigma method refers to streamline the operations through business process, and it's structured on five key-process- define, measure, analyze, improve and control (DMAIC). DMAIC approach uses a diversified set of statistical tools to improve the upgrading processes, the decision-making function, i.e the customer service. In terms of estimating the benefits and the impact of SIRU on an organization, traditional accounting methods are not compatible with the function of human resource management (Becker et al., 2001; Cascio, 2000; Fitz-Enz, 2000, 2002; Huselid et al., 2005; Thit, 2004). Although implementing a SIRU entails a number of tangible benefits, such as a high degree of efficiency across from the employment and a reduction in labor costs due to automation, there is also the intangible or hidden benefits (Roberts, 1999). These include customer satisfaction by rationalization and efficiency of HR processes, i.e the exemption of human resources department from the routine administrative issues to focus on strategic goals.

Just (2010) proposes another method, which is based on return on investment, a purely financial approach, often used to validate a project by comparing project costs with revenues and future productivity gains. If case of human resource information system, however, is particularly difficult to assess certain elements, such as productivity gains, some qualitative aspects (improving confidence and motivation, human resource function image, increase opportunities for communication, employee retention) that can have a direct positive impact on organization's activity or some quantitative aspects, such as low input.

Human resource management issues are numerous. In addition to the visible aspects, such as process optimization, data access, empowering stakeholders, reorienting human resource professionals to function with real added value information, the information system must allow to human resources function to be more effective and persuasive as "business partner" and to provide the right place assigned within the organization. Wacheux and Blanchot (2002) warn that getting the new value created by human resource management through NTIC is not implied. Essential for the human resources function is "to question the overall coherence of human resource policies by introducing new IT instruments" in an environment in a continuous change.

5. Conclusions

Fast economic development in most industrialized countries also led to an increase in costs of employment. Under conditions of more restrictive competition, the personnel managers have been more constrained than ever to strike a balance between the increase in costs and increases in productivity. High complexity of labor law has also contributed for the managers to focus attention on their human resources function, which needs to prove its economic and social efficiency. The major advantage of the design, development and implementation of a human resources information system is time saving in the development of transactional activities, thus allowing staff to spend more time on traditional and transformational activities.

If the expansion of informatics in a particular field of management has difficulties, this is due to the efforts of extension of the formal part of the information system. This extension requires several reflections

on the organization and, above all, a clarification and access to information and rules of operation. Or, this clarification and access to information never go by itself and is the restrictive element of development (Pichault,1990).

Information system contribution to the creation of value is achieved by new programs designed to achieve social balance sheet, management and forecast management of staff and skills and deeper analysis of the data and information in the industry, which are much closer to the results that matter in the decision-making process. Its potential to participate in the creation of value depends on the quality of the strategic procedure and the support to offer to some management tools like Balanced Scorecard.

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