The Research in e-HRM: Relevance and Implications in the Knowledge Society

Sofia TOTOLICI
totolici_sofia@yahoo.com
Dunarea de Jos University of Galati, Romania

Aurel TOTOLICI
aurel_totolici@yahoo.com
Valahia University of Targoviste, Romania

Edit LUKACS
edit.lukacs@ugal.ro
Dunarea de Jos University of Galati, Romania

This article aims to review current empirical research on electronic Human Resource Management (e-HRM) and discusses some implications for future research, which will be focused on comparative analysis of how social and cultural factors might influence the implementation and development of e-HRM systems in different E.U. countries. Based on a definition and an initial framework, we analyzed the surveys conducted in this field as well as the case studies focused on practical e-HRM applications, the examined topics and the relevant findings. Another goal of this study is to highlight the gaps between e-HRM and HRIS (Human resource information system), which refers to ICT systems used within HR departments. We are also interested in assessing the opportunities provided by Web 2.0 technologies for e-recruitment, the first field of human resource management to make extensive use of web-based technology.

Keywords: e-HRM, e-recruitment, web-based technology, knowledge economy

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1. Brief introduction and study focus

In our modern knowledge society, due to the last global developments and economical struggles, we came to cherish once more an idea stated a decade ago: in an organization the most valuable input is the human element (Ghosh, B., 2002). As a direct consequence of this, many scholars have researched, in the last years, subjects that concerned the HR field. Although all businesses nowadays tend to incorporate in their daily actions electronic systems for, almost, all their departments, there are only very few papers in the field of HRM that are aimed at the technology-driven facet of the aforementioned department. The little interest showed in e-HRM is of great concern since it is now quite clear that the affirmation - HR field will survive this new economy of ours if it “possesses a technology” (Shilpa & Fletcher, 2005) - is true. But, as past studies (Stroehmeier, 2007) revealed the fact that some surveys, made by HR consultants, have shown that the number of organizations that adopted e-HRM, as well as the depth to which applications of e-HRM have reached within the organizational framework, are both constantly increasing (e.g. CedarCrestone, 2005), it is pleasant to realize that, as e-HRM is becoming more and more common, academic interest in e-HRM has been increasing as well (Bondarouk & Ruel, 2009, Stroehmeier, 2009, Zafar, Shaukat & Mat, 2010, Liang-Hung Lin, 2011, Parry, 2011, Shilpa & Gopal, 2011 etc.)

But, even with the latest research in the field and however big the impact and importance of e-HRM system implementation nowadays, citing a recent study (Heikkila & Smale, 2010) we must point out the fact that e-HRM still does not get the attention it deserves in terms of research interest. In fact, if we were to be more specific, it can be stated that the empirical research in the field of e-HRM is mainly non-theoretical. The theories applied are all micro-level oriented, of a diverse nature and eclectic in application. Also, macro-level theories of HRM (e.g. Wright & McMahan, 1992) that were recognized by the scientific society were not taken into consideration. It is also safe to say that still the field lacks any leading paradigm (Stroehmeier, 2007). All these issues show us that the research in e-HRM must continue and develop and that the field is still young and there are many unsorted quarrels and unanswered questions that need to be attended to.

All this being said we aim at conducting a research in the field of e-HRM that has the main goal of answering the question: to what extent do national social and cultural factors influence the implementation, usage and development of e-HRM systems, in countries that share the legal framework of the EU?

Basically, we are trying to identify the national factors that play a role in e-HRM activities within companies that are active in countries that share the same major set of rules and regulations in terms of
legislation, as the member countries of the EU are. In order to reach this goal, we will conduct studies in two
countries, namely Romania and Spain, both member countries of the EU. We are conducting this investigation
because there is a lack of research and scarcely few references to national and cultural differences and
similarities in e-HRM adoption (Strohmeier & Kabst, 2009), and we consider that the national culture and
habits play a very active role in setting up the framework for all organizational activities. Also, another reason
for conducting this research, and do it within the boundaries of the EU, consists in the showings of a past
review of the literature, conducted over the research in e-HRM, showings that highlighted the fact that almost
all papers had a strong national focus on the US (Strohmeier, 2007). We think that the research would profit
from comparative studies that could reveal national influences in the field of e-HRM, and that our research
could be the starting point for more to come, some possibly conducted in an international wide range global
environment.

Furthermore, in the use of organization-based technologies, behavioral patterns are easier
understood when linked to national culture models, which become essential in that matter (Lee et al., 2007).
Even though national culture and other variables are widely studied for the effects they have on information
systems in general (e.g. Tan et al., 1998, Leidner et al., 1999, Agourram & Ingham, 2007), the effect they have
on e-HRM is clearly understudied (Panayotopoulou, Galanaki & Papalexandris, 2010), and thus resides the
necessity of this study. We shall return to this debate later on but, firstly we must begin exploring the world of
e-HRM, from the very beginning with the ABC’s by giving the definition of the concept, and in order to do that
we must set up a general framework for the apparition of this new concept. This requires us to go back in time
to the early 1990s when the Internet passed from military to commercial use once Tim Berner-Lee launched the
World Wide Web or the Web as we came to know it. Many different past studies have shown that the
development of the Internet back in the 1990s has generated a shift in all organizational activities which now
share the convenience and opportunity of advanced technologies (Black & Edwards, 2000, Howard, Vidgen
& Powell, 2003 etc.). This is how the idea of e-HRM was born.

2. e-HRM concept and importance

To understand e-HRM, one must know its meaning, and since it is a relatively new concept in the
world of organizations it is easily understood that misinterpretations can occur. Such a misinterpretation is to
consider e-HRM as being a HRIS (Human Resource Information System). The main difference between them
would be the fact that HRIS is directed towards the department of HR itself, rather than the whole corporate
staff, as in case of e-HRM. So, e-HRM can be considered the unlocking of HRIS for all the employees in the
organization (Shilpa & Gopal, 2011). In order for this king of misinterpretation not to occur we will provide
some definitions of the concept.

2.1. Definition

The term e-HRM can be traced back to 1990s when it was used to designate the action of completion
of HRM “transactions” by means of Internet or Intranet (Lengnick-Hall & Moritz, 2003). Since the early days e-
HRM has been suggested to have impacts of operational, relational and transformational nature (Lepak &
Snell, 1998). More recently, it is considered to be an “umbrella term covering all possible integration
mechanism and contents between HRM and IT, aimed at creating value for targeted employees and managers”
(Bondarouk & Rue, 2009). E-HRM can also be perceived as the planning, implementation and application of
information systems (IS) for networking and supporting actors while they perform HR activities (Strohmeier,
2007). Obviously this adoption is focused on the positive benefits that e-HRM should have such as: improved
quality, gaining more strategic role (for HR), reducing costs, speed-up processes etc. (Lengnick-Hall & Moritz,
2003)

Furthermore, E-HRM is also viewed as “a web-based solution that takes advantage of the latest web
application technology to deliver an online real-time Human Resource Management Solution” (Shilpa & Gopal,
2011) and thanks to e-HRM, HR activities can now be done not only by trained HR professionals, but also more
and more often by line managers, IT utilities and also through outsourcing (Tremblay, Patry & Lanoi, 2008).
Throughout this research we will use the definition forwarded by Bondarouk & Rue in 2009, as, from
our point of view it is embedding all important components of e-HRM, and, to continue the idea stated by its
authors, it links most known definitions of e-HRM into a consensus understanding.

2.2. Types and approaches

e-HRM has been divided into three types: operational, concerning only in administrative functions as
salary and personnel data administration; relational, involving the organizational processes of recruitment,
training, performance appraisal etc.; and finally transformational, mainly focusing on strategic HR actions (e.g.
organizational change, strategic re-orientation) (Snell, Stueber & Lepak, 2001, Rue, et al., 2004). When examining
it with increased attention, one can notice that the types of e-HRM are very much alike with the
goals of conventional HRM, this leading to the conclusion that e-HRM is supposed to support traditional HRM
in fulfilling its goals (Parry & Tyson, 2010).
So, operational e-HRM aims at reducing costs and efficiency improvement, relational e-HRM aids the organization’s staff in processing data themselves through online training options, performance measurements utilities, internal headhunting utilities etc. and managers to speed up some very important and usually time consuming processes, such as job applicants’ selection. Finally, transformational e-HRM provides communicational platforms for employees in order for them to be able to communicate regardless of their geographical location and time zone.

As far as the approaches in studying e-HRM go, in order to explain individual perceptions and reactions arising from e-HRM, scholars adopted (Strohmeier, 2007):

- attribution theory and correspondence inference theory (Elgin & Clapham, 2004);
- the attraction–selection–attrition and the similarity–attraction paradigm (Dineen, Ash, & Noe, 2002);
- change management theories (Ruta, 2005);
- organizational citizenship behavior (Huang, Jin, et al., 2004);
- privacy theories (Harris, van Hoye & Lievens, 2003);
- procedural justice theory (Dineen, Noe & Wang, 2004);
- signaling theory (Cober, Brown Levy & Cober 2003);
- social cognitive theory (Williamson, Lepak, & King, 2003).

In addition, in order to compare learning led by instructors with the one that was web-based, a learning theory was adopted (Coppola & Myre, 2002). We can also notice a set of theories that had their roots in the research of information systems (Strohmeier, 2007) and are used to answer problems of individual reactions and usage:

- the technology acceptance model (Huang, Yang, Jin, & Chiu, 2004),
- the unified theory of acceptance and use of technology (Ruta, 2005),
- the theory of usability (Williamson, Lipak, & King, 2003).

Furthermore, a conceptual IT framework is used to structure e-HRM impact on field professionals (Gardner, Lepak, & Bartol, 2003) and also there has been published a study that had a microeconomic approach trying to explain the, back then innovative, e-employment markets (Nissen & Gates, 2004).

But all existing literature on the matter was structured and combined into a framework forwarded by Ruël, Bondarouk and Loosie in 2004. We consider this to be the most complete and the most eclectic framework that exists right now and thus we will present it below and use it in our research as approach framework on which our methodology is based [see figure 1, source: Ruël et al., 2004].

Basically, the framework centers its interest on the internal agents (as in employees, management, workers council etc.) which are faced with e-HRM systems from four perspectives: Initial HRM strategy and policy, e-HRM goals, e-HRM type and e-HRM outcomes, all of which are influenced by the environment in which the organization as a system resides. More thoroughly, the first approach of the framework is based on the idea that every organization that decides to implement an e-HRM system needs to have traditional HRM strategy and policies. These policies were divided intro three main categories: bureaucratic that are...
characteristic to organizations that operate in stable environments both technological and socioeconomic, market for companies that act within high fluctuating markets and need to have a quick change response and finally clan policies issued by highly innovative, quality centered organizations (Beer et al., 1984). Depending on the state of the organization and the traditional HRM policies that are applied, decisions concerning e-HRM are being made. Continuing the classification, the second part mainly describes the different types of goals that the companies could achieve with the help of e-HRM systems. There are three important types of goals described in the model as possibly fulfilled with the use of e-HRM: HRM strategic focus development, cost reduction and efficiency increase, customer service and staff assistance improvement. Deriving from these goals is the ability of the organization to decide which type of e-HRM system is more suitable for their purposes, which is in fact the third approach. The same aforementioned e-HRM systems' type classification is present in this framework. So we have: operational, relational and transformational e-HRM.

Finally the last approach towards e-HRM studying consists in the analysis of its outcomes. The framework provides us with four groups of outcomes: cost effectiveness, congruence, commitment, efficiency improvement, service delivery, strategic orientation of the HR function increase, improve standardization, organizational image improvement, management empowerment and it is clear that they can be all included in the aforementioned main categories. As for the e-HRM outcomes, they are mainly related to efficiency, service delivery, standardization, relational outcomes and last but not least potential improvements in the organizational image, all of which could be easily placed within the main categories of outcomes stated above. Also, it is now clear that e-HRM has a strategic impact when speaking about enabling HR department in order to offer support in the achievement of the organizations' strategic targets, by notable improvement of efficiency and effectiveness (Ruel et al., 2004, Olivas-Lujan et al., 2007, Parry 2011, etc.). But this is dependent on the system design and implementation and also on the skills of HR staff (Zhang & Wang, 2006).

Since many of the companies that we research in this investigation have implemented e-HRM systems long before we could trace them, we will ignore the first two parts of the framework, namely initial policies and goals due to the lack of evidence to sustain any theory regarding these issues. We will focus on the latter two, with an emphasis on the relational type, since it is easier to observe and gather information about it, aiming at highlighting which specific national factors have implications on its implementation, and also identify the e-HRM outcomes that were influenced by those national cultural and social factors. We will also study the implications these factors had on the process of organizational adoption of e-HRM in two different countries of the EU (Romania and Spain).

2.3. Organizational adoption

As far as the process of organizational adoption of e-HRM is concerned, as found in the literature, it mainly refers to the decision to implement and apply IT utilities for HR purposes (Paraytopopoulou, Galanaki & Papalexandris, 2010), as adoption it is considered to be the process of initiating and implementing IT in order to support actors in performing HR tasks (Strohmeier & Kabst, 2009). Also, however easily deductible it may be, we must state that e-HRM implementation within an organization varies in the organizational functions for which it is used as well as in the degree of complexity of its architecture (Martinsons, 1994). There have been distinguished three areas of HRM that give the organizations the liberty of choosing between classical face-to-face HR services and e-HRM, and these are: transactional HRM, traditional HRM and transformational HRM (Wright & Dyer, 2000).

More widely explained e-HRM can be used for (Thite & Kavanaugh 2009): transactional activities, consisting in record keeping activities and daily transactions activities, traditional activities which include: recruitment, selection, training, compensation, performance management and transformational activities which are the ones that add value to the organization such as knowledge management, strategic re-orientation (Ruel, Bondarouk & Loose, 2004). In addition to the above said we notice that web-based technology has allowed organizations to directly provide their employees and managers with HR services via self-service systems that they implemented (Parry, 2011). In the past few years the delivery of transactional HRM shifted in approach from "labor intensive" to "technology intensive" (Florkowski & Olivas-Lujan, 2006). It is also clear that the vast majority of transactional HRM activities are nowadays delivered to their recipients by means of a wide variety of software solutions and not by HR administrators as it used to in the past (Parry, 2011).
When compared to classical HRM, e-HRM, which includes features based on the corporate intranet and many other self-service appliances for employees and corporate staff, also covers the major areas of responsibility of traditional HRM and has constantly gained more and more attention in corporate environments all around the world (Lawler & Mohrman, 2003). As shown in all past studies (e.g. Heneman & Greenberger, 2002; Bondarouk, Ruel & van der Heijden, 2009) it is important to introduce e-HRM features in working organizations because of its crucial advantages over classical HRM approaches. Only the fact that e-HRM can be accessed from virtually any place and its usage in more effectively development of human capital stated in an global environment as our knowledge society tends to be should suffice to convince every stakeholder to vote in favor of its implementation. Furthermore, as stated in a recent paper (Liang-Hung Lin, 2011), e-HRM has the ability to analyze HR activities and turn the obtained results into information that will be used for enhancing the organization’s effectiveness and innovativeness. The same study highlighted the two critical cornerstones of e-HRM: IT and VO (virtual organization) adoption. The former reveals the degree to which IT utilities are implemented in both the managers and common workers’ daily duties, while the latter highlights the level of embedment and integration of virtualized functions and/or IT-enabled systems into the working organizational structure.

But, all the above mentioned does not clear the main question of this paper, do national factors of cultural or social nature influence the adoption, usage and development of e-HRM? As literature within the organizational adoption frame did not provide us with a clear answer for this question we will further deepen our study and speak about this specific topic.

2.4. Social, cultural and institutional contexts for e-HRM

Lately more and more scholars struggled to tackle the very sensitive issue of cultural context and its effects on e-HRM implementation. This interest is due to the fact that it is now common knowledge that adapting e-HRM implementation schemes in order for them to fit the local context will increase user acceptance and the usage of the actual system, so not taking it into consideration is an important omission (Ruta, 2005).

Revising the literature related to this issue, we came to the conclusion that almost all existing research had the main focus of finding whether e-HRM had a transformative effect over the HR function in general (e.g. Shrivastava & Shaw, 2003) on HR professionals (e.g. Bell, Lee & Yeung, 2006) or not and only few studies that examined the implications that different cultural and institutional contexts had on e-HRM services delivering could be identified (Heikkilä &Smale, 2011).

Although the first related research came across was published back in 1996, when Hannon, Jelf & Brandes argued that global HR information systems (HRIS) have to better address the challenges involved in spanning social norms as well as customs and culture, now, after more than a decade, it is still safe to say that we know little about the effects that national factors (social, cultural etc.) have on e-HRM implementation and development (Strohmeier, 2007, Bondarouk & Ruel, 2009, Heikkilä &Smale, 2011).

It is true that there can be highlighted some empirical research addressing the organizational adoption of e-HRM (Ball, 2001, Beamish et al, 2002, Parry & Wilson, 2006, Olivas-Luja´n et al, 2007, Galanaki & Panayotopoulou, 2008, Keim & Weitzel, 2008, Lau & Hooper, 2008), but these studies can be best categorized by their regional and functional focus (Strohmeier & Kabst, 2009). As far as the regional focus of the studies goes, the vast majority relate to a single country (e.g. Panayotopoulou et al, 2007), while those who aim cross-national issues are rare (Plorkowski & Olivas-Luja´n, 2006, Panayotopoulou, Galanaki & Papalexandris, 2010, Strohmeier & Kabst, 2009). When talking about their functional focus, there can be pinpointed studies that address the adoption of general e-HRM (e.g. Lau & Hooper, 2008) and studies that concentrate on specific functional subsets of the e-HRM system (Keim & Weitzel, 2008 – e-recruiting, Martin & Jennings, 2002 – e-learning).

Most of these studies though focus on the current state of adoption and therefore the findings are the result of a wide-spread adoption, meanwhile the factors of adoption are very seldom taken into consideration (Teo et al., 2007, Strohmeier & Kabst, 2009) and the findings are scattered and, some, inconsistent. As far as consistent findings go, we should mention Strohmeier & Kabst who have conducted a study a few years ago aimed at finding out whether the theory which stated that e-HRM is a universal activity, meaning that it can be adopted by all organizations, was true or not. In order to accomplish that desiderate, amongst other things they raised a question that concerned the relevant factors of adoption for the e-HRM systems. The goal of the question was to pinpoint the factors that could systematically divide the organizations into adopting and non-adopting ones (Strohmeier & Kabst, 2009). They further stated that, given the fact that the adoption of many numerous other HR activities was influenced by the manifestation of national differences (Brewster et al., 2004), a special aspect of their study should refer to the cross-national differences in the adoption of e-HRM assuming the presence of some influencing factors that differ from country to country.

The findings were relevant e-HRM is not a strictly universal practice and it is not suitable for all organizations regardless of their characteristics. In their cross-national research conducted in Europe, they highlighted the following general and contextual influencing factors: organizational size, HRM inherited
configuration, which included institutionalization, comprehensiveness and most of all strategic orientation of HRM, organization of work, education, which they gave as uncertain and stated that further research is needed to establish the actual influence it has on e-HRM adoption, partially national economic development and influence of different industries, as in sector differences and task structure. Besides organizational size all of these factors were presented as uncertain or only partially certain and the authors recommended further research.

3. Conclusions

Due to the socio-economical context from the last period and the global trends, a theory conceived long time ago was reconsidered by the specialists in HRM, emphasizing that the human resource represents the most valuable asset of a company. In this way, numerous academicians approached different themes related to human resources, revealing their influence to the organizational success. Taking into consideration the technology boom from the last decade, we are aware by the fact that human resources were positively influenced by the Web 2.0 communication techniques, focused on collaborative intelligence in social networks, which represent the future of the human resource recruitment function. We remark the existence of numerous studies focused on the IT tools – support for HRM process, revealing the benefits of their implementation within organisations HR Departments. There are relevant surveys that illustrate the influence of technological factors on the adoption of e-HRM solutions. Even though the factors of adoption and the cross-national framework are now being tackled by more and more authors (Panayotopoulou, Galanaki & Papalexandris, 2010, Shilpa & Gopal, 2011, Parry & Tyson, 2011 etc.) there is still only little knowledge about their influence.

Till now, the only proven consistent result in the field of adoption factors still refers to organizational size as being determinant for e-HRM adoption (Ball, 2001, Hausdorf & Duncan, 2004, Florkowski & Olivas-Lujan, 2006, Teo et al, 2007, Strohmeier & Kabst, 2009) the rest are still in debate. As a final remark, there is still a research gap on this subject and, by the way, a more detailed research of the effect that the national specific factors might have on the implementation of e-HRM initiatives represent a direction of our future research agenda.

References