

**A Conceptual Study on: E- HRM and its Applications****Ameer Agrawal**

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**Abstract**

HRM (human resource management) is especially important in a knowledge-based economy, where ideas and expertise are greatly valued, and a creative and innovative workforce is necessary to meet the challenges of this new economy. HR professionals need to turn individual talent into stronger organizations. Talent is not enough. The whole organization should be greater than the separate parts. Teams outperform individuals. Individuals are champions, but teams win championships. People matter; organizations matter more.

Today, the goal is the same, but a greater utilization of technology is required to “fend off competitors, reinforce an existing competitive advantage, leapfrog competitors, or just make money in new markets” (Afuah & Tucci, 2003). Any company that isn’t constantly developing, or adapting new technology is likely to be out of business in a few years (Daft, 2001). e-HRM is an umbrella term covering the integration of HRM and IT, aimed at creating value for targeted employees and managers. E-HRM makes the HR function more strategic. HRM which is a primarily administrative HR function is likely to become more strategic with the addition of e-HRM. This paper explores the relationship between E-HRM and HRM Effectiveness along with the key issues and challenges in e-HRM research.

**Keywords:** HR functions, strategic partner, Strategic HRM, E- HRM, HRM Effectiveness.

**Introduction**

Historically, business have been defined as the organized effort of individuals to produce and sell, for a profit, products and services that satisfy society’s needs (Canzer, 2003). The 21<sup>st</sup> C is witnessing the emergence of a lot of advanced technologies that are affecting the social fabric and the workplace. These changes are manifold and affect lifestyles, work patterns, thought processes, and values of the masses. Technology has changed the paradigms of globalization. With the advent of technology, business men can coordinate satellite offices even in the remotest part of the world that has internet facilities. Consequently, there is a growing competition for providing internet access to developing nations. This in turn is creating job openings in regions previously deprived of business opportunities due to lack of communication devices. Information technology has become integral to our lives, and it is unlikely that we will revert to old methods of conducting business. It therefore follows that 21<sup>st</sup> C workplaces will not only look different but will also function in a different manner. New HR policies need to be framed that will help develop and retain sustainable businesses and communities. Information technology completely infuses HRM processes and HRM departments in today’s global networking timeframe. For more than a decade now, digital possibilities have been challenging traditional ways of delivering HRM services within business and public organizations. The impact of the current economic climate is clearly pushing more organizations to centralize their administration and standardize their processes, thereby gaining efficiencies and cost savings in their HR operations and technology infrastructure.

**Review of Literature**

Strohmeier (2007), for example, defines e-HRM as the ‘[planning, implementation and] application of information technology for both networking and supporting at least two individual or collective actors in their shared performing of HR activities’.

Ruehl, Bondarouk and Looise (2004) define e-HRM as ‘a way of implementing HRM strategies, policies, and practices in organizations through the conscious and direct support of and/or with the full use of channels based on web-technologies’ (p. 16)

Thus, we can define e-HRM as: an umbrella term covering all possible integration mechanisms and contents between HRM and Information Technologies aiming at creating value within and across organizations for targeted employees and management.

Lepak and Snell (1998) used the term 'virtual HR' to describe a 'network-based structure built on partnerships and mediated by information technologies to help the organization acquire, develop, and deploy intellectual capital' (p. 216).

A major study of HR in large organizations conducted by the Human Resource Planning Society and the Center for Effective Organizations (CEO) study of HR in large corporations concluded that there is a critical need for organizational leaders to focus on the development of a business partner relationship and the use of information Technology to help increase profitability (Lawler & Mohrman, 2000). To support the call for more of an integration between HR and IT, Coates (2001) stated that in most firms, human resource (HR) departments are an underperforming and underdeveloped resource, and suggests that HR departments engage in strategic planning to create new opportunities including the integration of information technology. Furthermore, a study by the Society for Human Resource Management (2002) identified technology as the primary trend within the HR profession.

As early as in 1980s, HR used IT primarily for administrative processes, like payroll processing, without considering the transformational HR practices (De Sanctis 1986).

In 2006, as the Cedar Crestone 2006 HCM Survey shows, companies tried to apply IT in various HRM applications: although administrative e-HRM was the most widely used area (62% of companies from where data was collected), many companies used IT for recruitment services (61%), performance management (52%), or compensation management (49%) (Cedar Crestone 2006).

There have been significant budgetary allocations in e-HRM in 2006 mostly towards buying simple management reporting tools as 11% for the next year, while they planned to increase their budgets, for example, in career planning activities by 15% and 19% for competency enhancing process (ibid).

According to sources, budgets allocated earlier to HR were about 4% on annual basis (HR Focus 2003), and sales of the HR technologies were estimated to be worth US\$300 billion over the last decade (Hawkin, Stein and Foster 2004).

Thus, it is no longer new to invest in integrating IT with HRM but Top management readily allocates funds for the same. E- HRM is an integrated part of ERP systems where HR modules are applied with finance and marketing modules. Also there are some innovative ways of applying e-HRM and enhancing the Organizational Productivity through self-service portals; HR user friendly database management; HRIS modules, etc. Moreover, skillful and competent manpower is required to run these e HRM applications.

## Applications of E HRM

Nowadays, at any given second, thousands of people are zipping around the Internet in search of employment opportunities, forcing organizations to direct e-HRM effort towards potential candidates (HR Focus 2003). It means that modern e-HRM broadens its target and goes beyond the organization's borders to address the needs of all stakeholders. At this point, researchers are supposed to focus on a specific stakeholder group as the e-HRM target in their studies.

### E-Recruiting

It is one of the most successful e-commerce applications as a method for quickly reaching a large pool of the potential job seekers. The capability of advanced e-recruiting tools has enabled recruiters to quickly identify and hire qualified candidates, and to build ongoing relationships with prospective employees. Major advantages cited for the successful adoption of e-recruiting methods include cost savings, efficiency, and convenience for both recruiters and job seekers (Tomlinson, 2002; Miller, 2001; Gale, 2001)

E-recruiting can be divided into six categories:

#### General purpose job board

The general-purpose job board provides a comprehensive online recruiting solution to both employers and job seekers across different industries. Monster, Hot Jobs, and Career builder are leaders in this category. Job seekers can search for jobs by category, experience, education, location, or any combination of these job attributes

#### Niche Job Board

The niche job board serves highly specialized job markets such as a particular profession, industry, education, location, or any combination of these specialties. Sample profession-oriented niche job boards include Journalism Jobs. Com, MarketingJobs.com, AllRetailJobs.com, and JobsInLogistics.com. Location oriented niche job boards include NJ.com, TexasJobs.com, and ArizonaJobs.com. The advantage of the niche job board is a focused search with which recruiters can reach a large pool of qualified candidates most effectively.

#### E-recruiting Application Service Provider

(ASP) develops and markets to recruiters and job boards a combination of specialized services in recruitment software, recruitment process management, education and training, and management expertise. Specialized recruitment software for the in-house development of larger-scale e-recruiting Web sites is available for recruiters who want to quickly develop career Web sites on their own servers.

#### Hybrid (Online and Off-Line) Recruiting Service Provider

Hybrid (online and off-line) recruiting service provider is the traditional media or recruiting firm that provides e-recruiting services to both recruiters and job seekers. Employment advertising in newspapers has suffered significant percentage declines as recruiters switch to the more efficient and cost effective recruiting methods. The New York Times

now offers a variety of e recruiting services including résumé builders, search engines, and job market research reports to both employers and job seekers. CareerJournal.com, developed by the Wall Street Journal, focuses exclusively on the career needs of executives, managers, and professionals, leveraging the Wall Street Journal brand.

### **E-Recruiting Consortium**

E-recruiting consortium is a cost-effective alternative to the services provided by the job boards. DirectEmployers.com, the first cooperative, employer-owned e-recruiting consortium, was formed by Direct Employers Association, a non-profit organization created by executives from leading U.S. companies. NACE link is another e-recruiting consortium that was created as a result of an alliance between the Direct Employers Association and the National Association of Colleges and Employers.

### **Corporate career Website**

Corporate career Web site is the hiring source most widely used by Fortune 500 companies (2002 iLogos Research study). The deployment of the corporate career Web site is a natural extension of the e-commerce applications when companies have already established high-traffic e-commerce Web sites. Among them, the corporate career Web site is the most popular recruiting method used by the Fortune 100 companies.

### **Employee Self Service HR Portal**

Most MNC's have realized the relative quick gains which can be achieved through the business-to-employee (B2E) model. Employee Self Service (ESS) is a solution based on the B2E model and it enables employee access to the corporate human resource information system. Most MNC's have implemented the ERP system (SAP R/3), and of these many have implemented the human resources (HR) module, along with the ESS component. These companies include Toyota, Westpac, RMIT, National Australia Bank, Siemens, Telstra, and Linfox (Hawking & Stein, 2002). Lehman (2000) opines that ESS Transforms labor-intensive, paper-based HR forms to digital-enabled forms, allowing a 50% reduction of transaction costs, 40% reduction in administrative staffing, 80% reduction in management HR duties, and a 10-fold speed-up of HR processes (Workforce, 2001). B2E Employee Self Service (ESS) is an Internet-based solution that provides employees with a browser interface to relevant HR data and transactions. This enables employees' real-time access to their data without leaving their desktop. They can update their personal details, apply for leave, view their pay details and associated benefits, view internal job vacancies, and book training and travel. The benefits of this type of technology have been well documented (Alexander, 2002; McKenna, 2002; Webster Buchanan, 2002; Wiscombe, 2001). They include reduced administrative overheads and the freeing of HR staff for more strategic activities, improved data integrity, and empowerment of employees. We have ESS as an example of a B2E system; similarly some more employee applications are M2E (Manager to Employee), E2E (Employee to Employee) and X2E (eXternal to Employee). A sum of

all these relationships are considered as a part of the ERM strategy (Doerzaph & Udolph, 2002)

### **Corporate University: Resources for HRM**

Corporations have been in the business of training and developing employees for a long time. It was estimated that U.S. companies would spend approximately \$56.8 billion (Galvin, 2002) on education and training in 2002 as a means both for keeping employee skills, knowledge, and abilities updated, and to better retain top employees (Van Buren & Erskine, 2002; Dillich, 2000; Koprowski, 2000). The rapid development of corporate universities, especially during the last few years, has proven effective in meeting these educational needs (Vine & Palsule, 1999). During the period of 1950s through the 1960s, Disney University, General Electric's Crotonville Management Development Institute, McDonald's Hamburger University, and several others were established to train and develop the manpower. Corporate universities are found in virtually all industries like consulting, high tech, military, entertainment, financial services, healthcare, automobile, and fast food, to name a few. Many corporate universities are now extensively involved with their organization's strategic planning processes (Carter, Giber, & Goldsmith, 2001). As a result, leaders of human resource management and development departments in these organizations are rapidly repositioning themselves to the highest levels of organizational influence and decision making.

"A corporate university is the strategic umbrella for developing and educating employees, customers, and suppliers in order to meet an organization's business strategies." (Meister, 1998).

### **Knowledge Management**

Knowledge management is about maximizing the knowledge assets in a company and recognizing that the combination of information, knowledge, and wisdom that both humans and digital files (e.g., e-mail, Excel spreadsheets, and Word documents) possess represent an asset (Barth, 2002). Knowledge management is the path to better understand a company's mission, competitive environment, and/or performance, and for creating value from knowledge-based assets. Such a process often includes capturing, retaining, and sharing the assets "among employees, departments, and even other companies" (Santosus & Surmacz, 2002), including assets that may exist across many miles. Knowledge management is the path to better understand a company's mission, competitive environment, and/or performance, and for creating value from knowledge-based assets.

Currently KM use has taken two tracks: KM related to information technology and KM related to people (Sveiby, 2001). IT-related KM, that dates back to the late 1980s, focuses on the management of information through sharing information (e.g., via intranets, Web technologies, e-mail, virtual teams, and groupware applications such as Lotus Notes); managing and analyzing large volumes of management-oriented data — past and present (e.g., through databases, data warehousing; data mining; and On-Line Analytic Processing, or OLAP); and tools

to create interactive e-commerce applications that can bring the supplier and customer closer to the business than ever before (Allee 2002). People-related KM, a much more recent usage, focuses on "assessing, changing, and improving human individual skills and/or behavior" (Sveiby, 2001). This type of KM, tied more closely to corporate universities, is far more difficult to employ since it relates to creating a learning organization, improving the corporate culture, and investing in people and recruitment. Today's knowledge management is a key component of any corporate university. Knowledge competencies are defined and measured by a company. Over time, employees become familiar with the competencies required for their current job and for achieving promotions, and they can then take more responsibility for their own knowledge competencies development (Allee, 2002)

## **E – Learning**

The American Society for Training and Development (2002) defines E-learning as: "...a wide set of applications and processes, such as Web-based learning, computer-based learning, virtual classrooms, and digital collaboration. It includes the delivery of content via Internet, intranet/extranet (LAN/WAN), audio and videotape, satellite broadcast, interactive TV, and CDROM." The benefits of e-learning include cost savings/avoidance; greater flexibility, including 24/7 delivery; and increased productivity, especially where learners are geographically dispersed (Hall, 2002).

The three major trends that are driving the growth of corporate universities are the growing connection between organizational strategy and human resources, knowledge management, and technology/ e-learning.

## **E-Democracy**

The Impact of Information Technologies on Communication Effectiveness: e-democracy can be defined as the technological advances in communication media that provides employees with more information and more direct access to other employees (supervisory and subordinate levels) than previously existed. These changes to communication channels provide organizational connections and lead to e-democracy practices that seek to improve the autonomy of organizational members.

## **Social Identity Theory (SIT)**

SIT proposes that individuals will tend to make favorable evaluations about their in-group ('us'), but make unfavorable evaluations concerning the out-group ('them'). If we identify at the organizational level, we perceive all employees of our organization as in-group members and employees of competing organizations as members of an out-group. More often though, it is at the sub-organizational level that we make the most relevant comparisons. The result is that employees will then tend to favor their workgroup or department and evaluate it more positively than other workgroups or departments.

## **Types of E-HRM**

Based upon the work of Lepak and Snell (1998), there are three types of e-HRM: operational e-HRM, relational e-HRM and transformational e-HRM.

According to Wright and Dyer (2000) there are three types of HRM: transactional, traditional and transformational HRM. Within all the types of HRM, choices have to be made in terms of which HRM activities will be offered face-to-face, and which will be offered through web-based HR (i.e. e-enabled)

## **Conceptual Framework**

According to the available literature on e-HRM the three goals of e-HRM are cost reduction, improving HR services, and improving strategic orientation (Brockbank 1997; Lepak and Snell, 1998; Rue'l et al., 2004; Stanton and Coovert, 2004) this can be termed as HRM effectiveness. HRM effectiveness is often mentioned as HRM's contribution to a firm's performance (Kaneet et al., 1999; Ostroff and Bowen, 2000; Wright et al., 2001).

HRM Effectives can be defined as an outcome of e-HRM that includes more efficient HRM processes, a higher level of service delivery and a better strategic contribution.

Innovative HR results in heightened firm performance (Wright et al., 2005; Hope Hailey, 2005). Huselid's (1995) pioneering study showed that a set of HR practices, labelled as High Performance Work Systems, were directly related to turnover, accounting profits and a firm's market value. Since then, there are a series of researches attempted to quantify the relationships between HR practices and firm performance (see the overviews by Delery and Doty, 1996; Ostroff and Bowen, 2000; Boselie et al., 2001; Wright et al., 2005)

HRM Practices comprise of a many activities which help in creating the firm's Human Capital. They can be Technical HR practices or Strategic HR activities. Technical activities are shaped through governmental policies and expectations of external stakeholders. The activities which come under the technical ambit are Recruitment, selection, Performance measurement, training and compensation administration.

Strategic HR activities involves designing and implementing a set of consistent internal policies and practices which ensure the contribution of the firm's human capital towards the achievement of its business objectives.

They can use Technical HR activities to select high ability employees, who are in possession of rare talent (cf. Wright & McMahan, 1992) and train them further so that they possess unique skills.

Strategic HRM activities help the organization in ensuring that its Human Resources are not easily imitated. The activities like team based designs, employee empowerment, development and retention of rare talent help in creating a unique pool of Human capital.

Thus, Technical and Strategic HR both contribute to HRM Effectiveness.

## **Research Question**

Will the e-HRM processes have the desired impact on employees' skills, behaviour and attitudes?

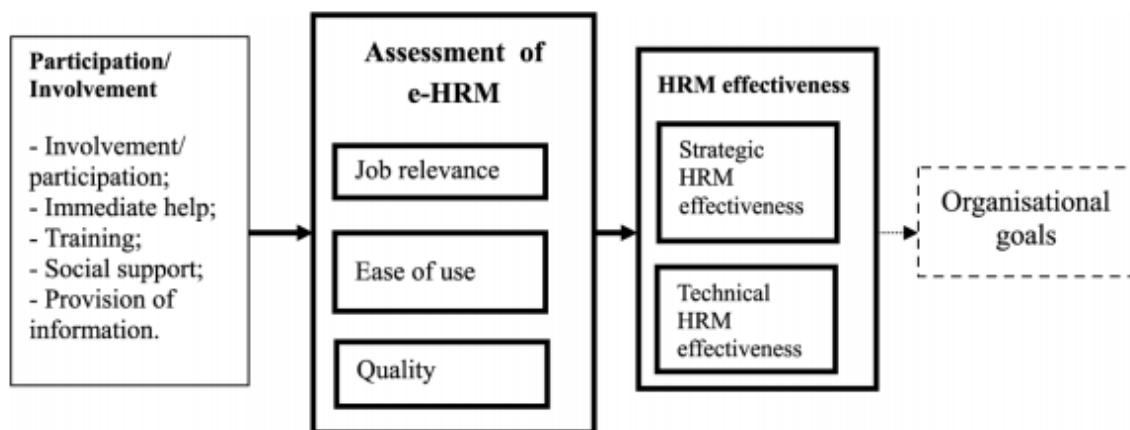
What are the conditions required to be satisfied by e-HRM to contribute to strategic and technical HRM effectiveness?

## The Research Model

In this study, we will test one main hypothesis: that the assessment of e-HRM applications determines their contribution to strategic and technical HRM effectiveness. Also we investigate which factors affect the assessment of e-HRM applications.

The assessment of e-HRM is seen as the extent to which e-HRM applications are perceived as appropriate in use. Recent studies on the implementation of e-HRM have shifted towards addressing the dynamic nature of HRIS implementation, and have used concepts such as innovation implementation, learning, change management and the Technology Acceptance Model (Keebler and Rhodes, 2002). The incorporation of the

Technology Acceptance Model (Davis et al., 1989) into e-HRM studies has resulted in the idea that the use of e-HRM by the targeted employees is largely determined by the level of usefulness of the HR information technology and the ease of its use (Ruta, 2005; Voermans and Van Veldhoven, 2005). A good recent example is the study into the implementation of an HR employee portal in the Italian subsidiary of Hewlett-Packard (Ruta, 2005). Inspired by concepts of the Technology Acceptance Model, usefulness and ease of use, we distinguish three aspects of e-HRM assessment: its job relevance (slightly different from usefulness), its quality and its ease of use. In particular we have included quality, referring to the content (HRM policies and practices) and the structure of the e-HRM tools.



## Research Model: The Link between E- HRM and HRM Effectiveness.

A more specific hypothesis can be framed as follows:

H1: The assessment of e-HRM, and more specifically the job relevance, quality and ease of use of e-HRM tools, positively affects technical and strategic HRM effectiveness

The study is aimed at one central question: Does the assessment of e-HRM affect HRM effectiveness?

We would like to explore a positive relationship between the assessment of e-HRM and HRM effectiveness.

The questionnaire will be formulated to study the operational aspects of e-HRM assessment (job relevance/usefulness, quality of the applications, and ease of use), HRM effectiveness (strategic HRM effectiveness, and technical HRM effectiveness) and participation/involvement.

### Parameters to be studied

Every item will be "scored" on a five point Likert scale.

1. Job relevance will be studied using four items (example item: "The use of [the name of the e-HRM application] enhances my productivity"),
2. Ease-of-use will be studied with five items (example item: "I find [the name of the e-HRM application] easy to use").

3. The quality of the e-HRM can be studied by analyzing the content functionality and the structure of E-HRM, on a five point scale. (example item: "I like the content of [the name of the e-HRM application]").
4. Technical HRM effectiveness will be studied based on work conditions and communications, and scored on a five point scale (example: "Within the Organization, are the communications between superiors and subordinates sufficient").
5. Strategic HRM effectiveness will be studied based on commitment, competence development and change studied and covered by six items (example item: "Within the Organization are there sufficient number of initiatives to commit employees").
6. Participation (four items): The extent to which users participate in the development and implementation of the e-HRM applications
7. Immediate help (two items): The extent to which users can get immediate help and support while using the e-HRM applications
8. Social support (two items): The extent to which users are supported by colleagues and managers in using the e-HRM applications.
9. Training (two items): The extent to which users can participate in organized instructional sessions for learning to use the e-HRM applications.

10. Provision of information (three items): The extent to which users are provided with information and communications about the e-HRM applications
- For the research study Stratified Sampling method will be used and the questionnaires will sent through google forms to zero down no response ratio as all the fields can be made mandatory in these forms. The Hypothesis will be used with appropriate testing tools through SPSS.
1. Important challenges in the transition of the organisation towards E-HRM
  2. Changing the Mindset of the organisation to accept virtualness as a strategic variable.
  3. The new business models and the IT based systems call for a change in the processes, for the introduction of the systems to be effective.
  4. Technology introduction requires a change in the processes to align harmoniously and also requires the development of interpersonal and team skills in a virtual environment.
  5. The development of leaders as coaches is also important in maintaining the organisational culture. Developing systems for Knowledge Sharing, Knowledge Creation and Knowledge Leverage are important for an organisation to be competitive.
  6. Creativity and innovation management with an acceptable performance evaluation procedure and just and flexible compensation plan is a must for an organisation to survive in the Virtual Environment.
  7. Continuous training, skill enhancement and providing challenges are critical in retaining the knowledge workers with in the organization.

#### Discussion

In this conceptual paper the research has highlighted the contribution of e-HRM towards HRM effectiveness which can be further tested through a quantitative study. This study can be useful for the many HR practitioners dealing with e-HRM implementation.

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