

E-HRM in India: Present Status, Challenges and Future Prospects

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Abstract

Despite the multiple benefits associated with the use of digital technologies in the area of HRM, its adoption is not widespread. The limited resources with the developing and the under-developed nations make e-HRM imperative to reduce the organizations operational costs. But before its successful adoption, the challenges to e-HRM need to be overcome and the way forward should be clear. While India is on the path of embracing digital revolution in all spheres of administration and management, its journey is not smooth as societal, cultural, infrastructural and economical barriers impede e-HRM adoption. In this context the present paper highlights the present status, challenges and future prospects of e-HRM in India with the purpose of providing a pathway to the policy makers and the organizations regarding the successful adoption and implementation of e-HRM practices in India.

Keywords: e-HRM, Human resource management, ICTs, Digital technologies.

Introduction

Today we are living in the era of 'digital age' in which information and communication technologies (ICTs) have brought innumerable changes in the organizations. Almost all the areas of administration and management have undergone tremendous change due to digital technologies and human resource management (HRM) is not an exception. In comparison to other business functions like marketing, finance, manufacturing, supply chain etc., HRM has been rather slow to adopt digitalization of its operative functions. Factors like competitive business environment, globalization, rising costs, etc. made it imperative for business houses to adopt relevant ICTs that would perform all HRM services, and thus help firms to achieve competitive advantage (Olivas-Lujan et al., 2007). These services mainly include e-recruitment, e-selection, e-performance management, e-compensation management, e-learning, etc.

Employment of digital technologies in HR field has actually helped in the emergence of a new symbiotic relationship which has changed the scenario from simple HRM to e-HRM or digital HRM, while at the same time has also empowered the technology to evolve at its full potential (Hempel, 2004). The digital HRM allowed greater flexibility

and stronger integration of workplace tasks. In fact, it has brought radical changes and has redefined the key HR activities. Bondarouk and Ruël (2009) defined 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”.

Though multiple benefits are claimed to be associated with digitalization of core HR practices, yet the adoption of e-HRM practices has not been widespread. Especially developing countries like ours usually face several challenges in terms of cultural, societal, infrastructural and economical barriers. However with the 'Digital India' initiative of government, the future of e-HRM in India seems to be bright. Keeping in view the scarcity of resources, there is an urgent need to reduce operational costs of the organizations through increased investments in IT in HR which would allow collaboration and/or replacement of a few, some, or all of the traditional HR functions through broader coverage of IT in HRM (Sharma and Shukla, 2013). With the rising growth figures, India has been at the core of the world's attention and with the digital revolution being witnessed, the day is not far when India will become the HR Capital of the world (PeopleStrong, 2016). Therefore challenges to this concept need to be overcome at the earliest and digital revolution should be embraced, only then e-HRM could accelerate the development of HR functions in Indian organizations.

Literature Review

(I) From HRM to e-HRM

The semantics of people management mainly consists of two terms, personnel management and HRM, in which the former has a limited scope and views workforce as a “tool” whose behavior can be manipulated for the interest of the organization and is replaced when worn-out (Aswathappa, 2018). The latter term is wider in scope and varies widely

because of social constructions and frames of reference undertaken by an individual (Rahman et al., 2018). As per Boxall (2007), “human resources include the knowledge, skills, networks and energies of people and, underpinning them, their physical and emotional health, intellectual capabilities, personalities and motivations”. HRM, therefore, treats the workforce as assets and is defined as “all those activities associated with the management of employment relationships in the firm” (Boxall and Purcell, 2003) and is an umbrella term encompassing personnel management and human resource development (Aswathappa, 2018).

In order to further improve this area of management, some form of restructuring was required which was made possible with the inclusion of IT in the processes of HRM which added value to the operational results of HR managers (Iqbal et al., 2019; Dede, 2020). This has resulted in the HR departments being more focused on the strategic roles in order to contribute to the operational results of the organization (Dede, 2020).

The field of HRM started using computers in 1940s for employee information storage and for payroll systems in order to transform the manual processes so as to decrease the human errors leading to enhancement of the overall efficiency (Walker, 1980). When the internet started to emerge in 1980s, it shed the spotlight on the various HRM activities and the development in this area accelerated (Al-Hmouze, 2016). Welbourne (2010) has aptly pointed out the three major goals of e-HRM implementation: cost reduction, improving HR services, and improving strategic orientation. However, the increasing demands of this aspect of management can only be met if modifications are made among the existing human resource systems so as to properly diffuse e-HRM in the organizations.

With the aim to study and analyze the best practices, table 1 shows some of the related studies conducted with regard to e-HRM in the present century.

Table 1: Studies related with e-HRM practices

Author (Year)	Objective	Design/Methodology	Findings
Hooi (2006)	To understand HRM practices among small and medium sized enterprises (SMEs) in Malaysia	Both primary and secondary data was used but the main method was primary data survey.	(i) There is a relationship between availability of financial resources, expertise, and technical infrastructure and feasibility of implementing e-HRM. However, lack of these

	and to gauge the feasibility of implementing e - HRM in these companies.		resources is not considered a main constraint in the implementation of e - HRM. (ii) Readiness and feasibility of implementing e -HRM in SMEs in Malaysia is dependent on the attitude of employees and availability of resources.
Stone et al. (2006)	To find the factors affecting the acceptance and effectiveness of e - HR systems in organizations.	Secondary research was carried out to propose a model that relates the antecedents to the consequences.	(i) “Blended” HR systems i.e. combination of traditional HR systems and e-HR systems should be deployed in organizations. (ii) e -HR systems may even result in dysfunctional consequences, if they are not properly implemented.
Olivas-Lujan et al. (2007)	To study how the Mexican firms are using e-HRM to their advantage and how other firms can achieve competitive advantage from e - HRM.	Case studies from Mexican firms are depicted with the aim to add to the e -HRM research in emerging countries.	Local idiosyncrasies play an important role in e-HRM adoption in the firms of emerging countries. Social and cultural contracts, country’s infrastructure, local institutions, etc. provide varying degree of challenges to e-HRM adoption.
Sharma and Shukla (2013)	To explore the new trends in adoption of IT for HR practices in various Indian organizations.	Exploratory study with case study method was employed.	Major challenges for e -HRM adoption includes: (i) Software like that of payroll and performance appraisal are not user - friendly. (ii) Automation level is not dependent on nature of industry. (iii) Organizations should strengthen the working knowledge of e-HR applications among the HR practitioners.

Narendra and Bhor (2014)	To examine the present scenario of e-HRM in the sugar industry of India and how it acts like a differentiating tool in today's competitive market.	Data was collected from 13 sugar factories located in 7 western districts of Maharashtra, India.	e-HRM and mobile applications have a tremendous scope in the sugar industry in India. The challenges that it presently faces include untrained manpower, lack of integration of various business modules, etc. which need to be overcome.
Bondarouk et al. (2017a)	To examine the relationship between e-HRM and HRM service quality.	Empirical study was conducted & standardized scales were used for collecting the data.	HRM strength is an important antecedent of HRM service quality, which means that e-HRM systems would fail if organizations do not have strong HRM systems to start with.
Neema (2015)	To study the e-HRM practices in public and private service sectors of India.	Data was collected using a structured questionnaire from banking, telecom and insurance companies.	(i) A significant difference on all factors of e-HRM practices was found between public and private sector banks with private sector banks being more transformational in this direction. (ii) Private insurance and telecom sectors have adjusted more to e-HRM practices as compared to their public sector counterparts.
Marler and Parry (2016)	To examine that whether e-HRM is a precursor of strategic HRM or IT is simply a tool to execute strategic decisions in which HR strategy precedes the deployment of e-HRM.	Data were collected from 5665 companies located in 32 different countries over a period of 18 months in 2003-05.	Strategic HR involvement and greater e-HRM capability are both directly and reciprocally related to each other and each is not mutually exclusive.

Sinha (2017)	To examine the impact of e -HRM on cost, employee empowerment, reduction in administrative burden of HR managers, etc. and to examine extent of its usefulness in Indian organizations.	Descriptive research using primary data was conducted.	<p>(i) e-HRM greatly helps in strategic capability building of the organizations.</p> <p>(ii) There is a significant difference in application of e -HRM tools, depicting that penetration and depth of e -HRM tools are not uniform in Indian organizations.</p> <p>(iii) Digitally illiterate employees should be given relevant training to get maximum gains out of e -HRM instruments.</p>
Roy and Jegan (2019)	To examine the execution of e -HRM in banks and its impact on organizational commitment of bank employees.	A descriptive research design was used and data was collected from 146 public sector and 69 private sector bank employees of Kanyakumari district of India.	<p>(i) e-HRM practices in banks have been adopted at moderate level with more level of adoption seen in private sector banks as compared to public sector banks.</p> <p>(ii) Organizational commitment is more in employees of private sector banks than that of public sector banks. The e-HRM practices influencing commitment include e -training, e -recruitment, and e -information sharing. This influence also is higher in private sector bank employees compared to public sector bank employees.</p>

Source: Compiled from various studies.

Theories supporting e-HRM adoption

The adoption of IT have been looked upon by many theoretical models like Technology Acceptance Model (TAM) (Davis, 1986), Technology, Organization and Environment (TOE) (DePietro et al., 1990), Diffusion of Innovation (DOI) (Rogers, 1995), etc. The TOE theory has the most widely accepted effect on e-HRM practices as its prime focus is on firm level analysis and not on individual level analysis (Oliveira and Martins, 2011; Rahman et al., 2018). Also, the environment factor in this theory aptly covers the role of government in technology adoption which is the main theme of the study. Hence, this theory is taken under consideration in the present study.

Technology-Organization-Environment (TOE)

TOE theory, developed in 1990, throws light on the adoption outcomes in organizations using three broad categories, namely technology, organization and environment (DePietro et al., 1990). It discusses the processes and procedures that assist firms in adopting and assimilating a technological innovation. The first factor, technology refers to the characteristics and features of the new technological innovation that influences its adoption through its relation with realization of potential benefits and the organizations' existing capabilities of adoption (DePietro et al., 1990; Chong and Ooi, 2008; Tan et al., 2009). The potential gains and barriers of innovations are assessed by adopters, in which gains refers to the increased benefits that organizations expect to achieve in terms of efficiency, service quality, etc. while the barriers include complexity of adopting the innovation and the compatibility issues with the organizations' legacy and competency systems (Rogers, 1995; Chong and Ooi, 2008; Oliveira and Martins, 2010; Troshani et al., 2011). Second factor, organization depicts the organizational characteristics that make or mar the adoption process and this includes structure of organization, resources, processes, etc. (DePietro et al., 1990). Adoption is facilitated when there is support from top management (Premkumar and Ramamurthy, 1995), there is high degree of centralization (Yang et al., 2007), supporting organizational setting, skilled workforce (Lin, 2006), etc. The last factor, environment encompasses the firm's business environment and includes industry characteristics, competitors, government support and regulation, supporting infrastructure, etc. (DePietro et al., 1990; Oliveira and Martins, 2010). Government has a major role in this factor as it can encourage technology adoption by raising awareness, training, and support, including funding and thus is very crucial in the success of innovation adoption (Chong and Ooi, 2008). The TOE model is widely used but is often criticized because it

ignores the fact that the three factors can fluctuate across different scenarios and situations (Rahman et al., 2018).

Need and Objectives of Study

Research on adoption of e-HRM technology began roughly four decades ago when organizations started adopting technologies with the desire of gaining administrative as well as strategic benefits (Bondarouk et al., 2017b). However, the firm-level studies that have been conducted to study the impact of ICTs, have been largely limited to developed countries (UNCTAD, 2011). Research on developing countries like India is largely missing. Presently, India is on the journey to embrace the digital revolution in which various management disciplines including e-HRM can play a vital role by transforming the organizations and the business activities. But implementing the e-HRM practices in Indian context is a huge challenge as there is a lack of research leading to poor knowledge and understanding among various stakeholders of the organizations. Thus, the present study aims to bridge this crucial gap in research which would facilitate the decision-makers to overcome the challenges and would eventually speed-up the adoption of ICTs in the Indian organizations for effective employee management.

This research endeavours to examine the present status of e-HRM adoption and aims to identify the challenges faced by the Indian organizations to achieve service and performance excellence through e-HRM.

Research Methodology

To meet the objectives of the study, data were collected from secondary sources by reviewing the literature related to technology usage and the inhibitions to e-HR practices. This includes going through various research papers, case studies and doctoral theses, etc. from national and international sources and journals. The paper is divided into three sections, section - I discusses the present status of e-HRM in India, section – II illustrates various challenges for e-HRM in India and the last section discusses its future prospects.

Section - I

Present Status of e-HRM in India

The high employee base sectors like IT, banking, insurance and BPOs are considered to be the pioneers of implementing and benefitting from e-HRM practices in India and this route is now even followed by the traditional Indian organizations like automobile (e.g. Tata Motors, Maruti Suzuki), energy (e.g. NTPC), and FMCG (e.g. Dabur), etc. (Sinha, 2017). In comparison to public sector, private sector has more successfully adopted these

practices, especially in the banking sector (Neema, 2015).

The various HR functions, i.e. recruitment, selection, learning, compensation, and performance management, etc. which can efficiently be performed with IT based mechanisms, have presently been adopted at varying degrees by Indian firms and the following section describes their adoption extent:

e-Recruitment: The digital recruitment based approaches that are mainly adopted by organizations all around the world include company web sites, e-recruiting, job boards and relationship recruiting (Lievens and Harris, 2003). In India, the commonly used e-recruitment strategies includes corporate websites in which the company's own website displays current openings for the candidates to apply and commercial job boards which posts job advertisements by the companies e.g., monster.com, naukri.com, etc. (Dixit, 2016). However, the emerging innovative recruiting technologies and techniques in India are social media and digital marketing and these are becoming the new norms in the recruitment system (Gager et al., 2015).

e-Selection: The efficient digital selection approaches that can be used by organizations include computer based testing, telephone-based assessment procedures, internet-based testing, multimedia simulation tests, and virtual reality immersion testing or virtual reality technology (VRT), computerized job simulations and situational judgment tests (SJTs) (Anderson, 2003). E-selection has helped businesses in cost reduction, efficient utilization of human capital, and sustainability (Aswathappa, 2018). In India, online tests are now conducted for both public and private sector recruitment. Recruitment exams like that of railways have already helped to save millions of paper sheets, leading to conservation of trees and forests (Press Trust of India, 2017). Other public sector commissions like Staff Selection Commission have also started holding its exams like SSC CGL, SSC CHSL etc. in online mode. Private assessment companies like eLitmus and AMCAT help in recruitment and e-assessment of entry level graduates and help candidates to secure good jobs in the private sector companies.

e-Learning: Training and development prepare young graduates for corporate work, enhance their knowledge capital, and keep themselves at par with employees of companies all around the world (Agrawal and Thite, 2003; Russell, 2008). The current business environment has compelled the organizations to cut-short their time and expenditure on different training programmes. For instance, HCL is changing its conventional system of 3-6 months of classroom learning for fresh graduates, and is embracing a "just-in-time approach - delivering modules

for skills required for immediate roles" (Roy, 2014). A number of other Indian companies are also changing and upgrading their training and learning modules to IT enabled modules for better results. Examples include Infosys, a leading software company, that has taken to e-learning in order to have consistency in training and to cater to a large number of geographically dispersed employees; Mindtree that has shifted its focus to online training to coach all its employees and is able to save two-thirds of its cost; Mphasis that is able to accommodate more employees per training session thus simplifying its on-boarding process etc. (Roy, 2014). Apart from these, even some of the giant public sector undertakings like Hindustan Petroleum Corporation Limited has also shifted its focus on e-learning and now provides online certification courses on supply chain management, project management, various behavioural domains, etc. to its employees (Training and Development, n.d.). Though Indian government provides tremendous support to both academic and corporate e-learning initiatives but the huge start-up costs for e-training makes such initiatives unattractive and prohibitive for small and medium enterprises (Rao, 2011).

E-Compensation Management/Administration: The electronic system assists organizations in administering and tracking employee's salaries and wages, incentives, allowances, claims, taxes, and also their participation in various benefits programmes like insurance, medical care, gratuity, etc. (Aswathappa, 2018; Rahman et al., 2018). This requires collection and storing of a lot of information, especially involving those that deals with the nature of the employees' accident or sickness, medical reports, regulations checking the staff behaviour, and government information (Hendrickson, 2003). This is advantageous even for the employees as they can review the details of their salaries and bonuses anytime and can also seek information and enrol in benefit plans easily (Robinson and Janani, 2017). Overall, these systems bring equity for employees while being cost effective for the employers (Arjomandy, 2013).

e-Performance Management: The various subsystems involving digital technologies in performance management helps to establish performance standards and guidelines, assist in the assessment of employee performance, provide timely feedback to employees about their performance and also helps to take remedial action if performance standard is not met (Stone et al., 2006). This helps in reducing paper work and can effectively save cost and time of HR department. Critical information related to team performance, demographics profile, etc., and 360 degree feedback mechanisms can be easily generated with these technologies which could help in efficient resources

utilization across all departments of the organization.

In India, the private sector and in the recent years even the public sector is attracted by the benefits of e-performance management. The Department of Personnel and Training (DoPT) of Indian Government has launched 'Online Probity Management System' for assessing the integrity and performance levels of certain Group A and Group B officers and Sparrow (Smart Performance Appraisal Report Recording Online Window) system that has made the complete appraisal system online and it also facilitates the review process done by the concerned ministries (Sharma, 2017). The technology today has made way for fast and quick performance management systems. Private companies are thus moving to 'real-time performance appraisals' as they no more want annual performance appraisal system and thus are going for regular and casual feedbacks (ET Bureau, 2017).

In India, organizations are mostly using 'SAP', 'BAAN' and 'People Soft' which are customized e-HRM packages for the companies. These are mostly used and adopted by large organizations. Small and medium businesses (SMBs) still have a long way to go. As per the report of KPMG India and Google (2017), digitalization has great impacts in small and medium businesses as the digital SMBs are able to generate five times more employment than their offline counterparts. With the 'Digital India' programme being run in full swing, there lies a huge scope of launching e-HRM functions in such SMBs in near future.

Section - II

Challenges

Technology driven HR functions can act like a catalyst in enhancing efficiency of HR departments in Indian organizations. However, there are certain challenges that need to be overcome first. Some of these challenges are discussed below:

Organizational Challenges

- i. **Cost and Complexity:** In any organization, costs associated with IT are not just limited to purchasing technology but also includes expenditure on training and system support. Lot of money and efforts are required for the systematic switch over from traditional HRM functions to e-HRM functions, which is really a daunting task for organizations.
- ii. **Resistance to Change:** Bringing organizational wide changes is a big challenge in itself. Resistance is often observed from HR managers who sometimes consider that e-HRM initiatives would decrease their control over various HRM functions and as a result, they may have to

lose their jobs (Bhatnagar, 2009). Also, management's unrealistic or half-hearted attempt to bring e-HR practices in organizations only makes things more complex. In this regard, it will be better to involve all stakeholders right from the e-HR planning stage till all goals and objectives are attained (Sareen, 2014).

iii. **HR Professionals' Skill Gap:** As per Hempel (2004), HR managers should essentially adopt technologies that enable the "reengineering" of HR role, be ready to assist in technology driven work-design and organizational changes, and should support the managerial environment for knowledge-based and innovative organizations. However, studies have shown that traditional HR education and HR professional degrees do not appropriately prepare professionals for these challenges (Hempel, 2004). Thus, the HR education needs to be revised so that the professionals grab the necessary skills.

iv. **Lack of alignment of HR Processes with the Goals of Organizations:** The alignment of HR processes according to the future of e-business is a key challenge in e-HRM (Sylvester et al., 2015). Lack of alignment results in an attitude of neglect and lack of attention paid to e-HR ventures by the top management and hence they do not pay attention to educate, train and develop employees. This attitude is often exhibited by the organizations' lack of funding to purchase, update and maintain HRIS systems, lack of knowledge and expertise in employees to operate HRIS, etc.

v. **Data Management and Information Security:** According to Varma (2010), e-HRM systems usually generate huge amount of data, tackling which is a great challenge for companies. Companies have to do data mining in order to efficiently understand and utilize this data for measuring workforce performance, tracking attrition, etc. Also, the information generated from e-HRM systems is very important and should be essentially protected from outsiders who could misuse the organization's crucial data.

vi. **Losing 'People Connect':** With more automation in organizations, the personal connect declines. Managing relationships is the most important function and the foundation on which the success of HR functions rests but too much focus on technology based HR functions could actually decline the efficiency of HRM (Sareen, 2014). Hence, organizations need to carefully adopt those selective e-HRM practices which are very essential.

Infrastructural Challenges

- i. **Poor Internet and Power Connectivity:** The e-HRM adoption is expected to be associated with the extent of

internet penetration in the country (Panayotopoulou et al., 2010). As per the TRAI's "Indian Telecom Services Performance Indicator Report" of January 2020, India has only 687.62 million internet subscribers till September, 2019 which means that around 50 percent of the Indian population have access to internet. Thus, the prevailing 'digital divide' can actually make the e-HRM implementation difficult especially for people who don't have internet connectivity like those living in rural and remote areas of India. For example, if recruitment is to be carried out on an electronic platform, many job-seekers may not be able to apply and compete with others. Moreover, the telecommunication industries offer poor internet services in developing countries like India which could be due to various reasons like bad maintenance culture, prevalent digital divide (as rural areas have lesser internet using population) and the lack of government support systems in these areas. Along with internet facility, 24*7 power supply is equally essential for the successful implementation of e-HRM services which seems to be a distant dream as far as India is concerned.

ii. Frequently changing and weak Government Structures: Usually, with the change of government at centre the policies also change. For example, the National e-Governance Plan (NeGP) launched in 2006 by the UPA government was later on changed to 'Digital India' when the new NDA government was elected in 2014. The new schemes and policies may be better or less effective than their previous counterparts, but it definitely results in lack of continuity in the 'priority' plans and policies of the governments, due to which some targets and goals are left midway. This may also adversely affect the IT penetration which impedes effective HR management, thereby affecting the growth of organizations. Such obstructions result in insufficient monetary support, fear to change the working style of staff, reduced involvement and commitment of employees, etc.

iii. Low Private Investment: Long term investors tend to avoid investing in areas where the infrastructure security and safety concerns are low. Investments are low for internet penetration in India which impedes growth of e-HRM functions.

Section - III

Future Prospects

India's flagship 'Digital India' programme provides a path for transforming all the businesses, including their tasks, functions and services. The robust IT connectivity being provided under India's smart cities mission is also a stepping stone in the same direction (Nanda and Randhawa, 2019). With this, e-HRM functions are also

expected to witness accelerated development. The future of e-HRM in India is a journey which aims to move towards paperless offices, have retrieval and analysis of data done at a very high speed, gather and comprehend information to assist in strategic HR functions, generate highly reliable and correct reports, give fast responses to queries, establish standardized, streamlined and systematic procedures, provide transparency, enhance the efficiency of the organizations, improve processes by reducing duplication of efforts which helps in financial gains, reduce organizational burden, help to improve employee satisfaction and productivity, etc. It would revolutionize each and every task of HRM starting right from human resource planning, recruitment, selection, training and development, compensation and reward management, performance management, etc. till the separation management.

From e-HRM perspective, we are presently in the centre of an interesting era as innovative and thought-provoking digital HR practices are currently underway of adoption by organizations all around the world. These HR practices could be guiding light for Indian organizations, enabling them to adopt suitable e-HRM practices in their businesses so that Indian organizations can take quick steps towards brighter and more technology-driven future.

Conclusion

For the companies and especially, the HR professionals in a developing country like India, modern day digital technology is both an opportunity as well as a challenge which should be adopted but with care. The relation between IT and HRM can be termed as symbiotic. While the application of IT in HRM is believed to change the role of the function, at the same time HRM also allows technology to develop at its full potential (Hempel, 2004). The small and medium businesses could benefit in a great way by adopting the various e-HRM functions but government and organizational leaders' support is very much required for this colossal task.

The present study is successful to the extent of providing a pathway to the policy makers and organizations regarding the adoption and implementation of e-HRM practices in India. Organizations can reap the manifold benefits associated with the launching of e-HRM services. Cost cutting, time saving, swiftness in various HR tasks, fast decision making etc. are just some of the spill over positive effects of e-HRM. However, for leapfrogging development in HRM functions, the above discussed challenges need to be overcome. Only then, the investment in e-HR practices can result in qualitative and efficiency gains (Sylvester et al., 2015).

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