

ELECTRONIC HUMAN RESOURCES MANAGEMENT (E-HRM) TOOLS AND EFFICACY: A STUDY OF MANUFACTURING AND SERVICE SECTOR

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Abstract - Conventionally, the industrial workloads and its chores managed by people. But, eventually Information and Technology has reached to a stage where roles and tasks got substituted by electronic forms. This initiates for the flow of automated data which makes industry to take over its functions in a smooth way. Human Resources Department (HRD) also got the impact of Information and Technology (IT). In the recent times, the field of Human Resources Management has witnessed some trendy concepts in technology. These concepts include Human Resources Information System (HRIS), Electronic Human Resources (E-HR) and Virtual Human Resources (VHR). Human Resources Information System (HRIS) is used to gather and regulate the data pertaining to the human resources of the organization.

Already, E-HRM systems launched in the American companies like Watson and Wyat. Large software vendors like PeopleSoft, SAP, and Oracle are catering the HRM needs. Besides them, small software vendors are efficient enough in offering software products to automate human resources services like recruiting, training, career planning, administration of benefits and performance management. Indian firms did not lag behind in such technological developments. Electronic Human Resources Management (E-HRM) acquisition and deployment are taken place in Human Resources departments leading towards digitalization progress.

Keywords: Electronic Human Resource Management, Virtual Human Resources System, Technological innovations, Benefits Dependency Network, E-Recruitment.

I. Introduction

Electronic Human Resource Management is a modern concept introduced in the field of human resource management field in 1990's. E-HR implies the usage of internet in transactions for carrying out the processes of HRM. It strives for making information accessible to managers and employees at any moment. At present, an E-HR system may consist of 'Enterprise Resource Planning Software (ERP), HR service centers, interactive voice response, manager and employee portals and web applications. Hence, a modern E- HR system lets

employees to regulate their own personal information by reconditioning records and making decisions. Such a platform allows management for accessing information and data and making analyses. This helps in taking decisions and interacting with without consulting the Human Resources department. The validness of human resource management tested by emphasizing upon its performance. E-HRM gears up transaction processing thereby reducing information errors and improves the tracking and regulating human resource actions.

E-HRM effectiveness better is studied by focusing on the implementation features and demographic factors e.g.: age, IT experience of employees, utility of the technology, and facilities rendered in the use of technology.

II. Defining the Research problem:

This article intends to place a very sensitive question that what is the impact of electronic human resource management tools over the working of Human Resource Department. It is very important to scrutinize E-HRM tools and its effectiveness in the sphere of Human Resource management. In this article, it explains the different E-HRM systems and its impact on organizational processes and performance of the employees and the managements in the terms of benefits, adoption factors, resistance factors, uses and other organizational variables of interest such as job satisfaction, organizational commitment, attitude, etc.

Hence, the analytic efforts to describe E-HRM applications and effectiveness statistic as exhibited after data collection limits to two sets of firms i.e. manufacturing and servicing sector firms.

III. Objectives of the research:

1. This research takes an effort of giving best implications of electronic human resource management in the wake of industrialization.
2. It explains how E-HRM tools assisted HR managers in accomplishing their tasks.
3. Also, it makes available different HR policies and procedures to be taken place with ease.
4. It simplifies the load of human resource tasks to be carried out with the application of E-HRM techniques in sectors like manufacturing and service sectors.

IV. Method of the study:

The research in the disciplines like Electronic Human Resource Management is very scarce. It's a recent originated topic in the scope of human resource management. Much research could not be seen to be available. Hence, the researcher has taken the help of secondary sources for accomplishing this research article.

V. Effectiveness of E-HRM tools:

In the previous days, the research in information systems and its literature confirms that information and technology and its usage, impact is very well researched area of study in Organizational studies. However, the researchers in the area of Personnel Management or Human Resource Management are found with lack of proper research in terms of theory and evidence. In 1986, 'Hall' and 'Torrington' realized a close association between organization size and HRIS (Human Resource Information System).

Also, in the year 1998 'Thaler-Carter' identified two fundamental differences between the smaller and larger organizations opting for HRIS with regard to its cost and risk. Clearly, a small firm may not be able afford to purchase large Enterprise Resource Planning (ERP) systems such as PeopleSoft and SAP. Walker in 2001 opined that the following key areas of Electronic Human Resource Management benefitted the organization:

- (a) Employee and manager self-service;
- (b) Administration of employee benefits;
- (c) Recruiting and staffing;

- (d) Management of employees' performance
- (e) Compensation planning
- (f) Employee development;
- (g) Knowledge management

Organizations required including E-HRM revolution. It consists of factors like cutting edge information technology, ranging from internet-enabled Human Resource Information Systems (HRIS) to corporate intranets and portals. E-HRM acts as a contributive tool that can be used to manage capable and current talent ensuring appropriate skills are attracted into the business at the appropriate time by retaining them. The research done on the benefits of E-HRM on organization reveals that there a number of advantages of E-HRM tools for the organization.

It can be beneficial those people working within the organization if it is implemented properly then it can save time and money by cutting down on time taken on interviews and testing job applicants. E-HRM assists many of the HR administration responsibilities by complies daily activities in the organization. It permits for decentralization and standardization of HR tasks across the whole world. It renders its helping hand to the line-managers of the company by facilitating adequate information for decision-making. E-HRM helps the management by making away with human biasness and regulates uniformity within the staff members of company. E-HRM permits Human Resource department to focus more on organizational strategic decisions and problem solving for becoming competent and skilled enough in the labor market. In 2002 Beckers and Bsat stated that there various benefits in using E-HRM by companies.

VI. E-HRM Degree of Operations and Proficiency:

In a view to estimate how E-HRM affects functioning of human resource professionals and line managers it is necessary to review the Human Resource Management is administered in various dimensions in the organization. Basically, there are three main types of E-HRM. These categories of Electronic-Human Resource Management are well associated with the Human Resource Management (HRM) practices developing within the organizations. Any sort of progress being made in HR practices paving way for E-HRM advancements

technically. Wright and Dyer in the year 2000 differentiate three approaches in which Human Resource Management (HRM) activities are conducted. They are:

- a. Transactional HRM
- b. Traditional HRM and
- c. Transformational HRM

The fundamental form of E-HRM is all about publishing information. The next higher level of E-HRM involves the automation of transactions, and the most complex level of E-HRM concerns the transformation of how human resource practices are conducted in the organization. Finally, Martin, Reddington and Alexander in 2008 concluded that E-HRM can be categorized according to three dimensions namely operational HRM, relational HRM and transformational HRM.

1. Operational Human Resource Management:

- (a) Operational Human Resource Management deal with the principal operations involving basic human resource administrative operations.
- (b) These Activities include gathering personnel data and regulation of payroll.
- (c) This kind of E-HRM function is beneficial to the organization as it lets a cost effective measure in distribution of information by deducting printing cost.
- (d) Modifications in information can be updated at the time of necessity.

2. Relational Human Resource Management:

- (a) Relational Human Resource Management is the second vital form of E-HRM.
- (b) It deals with different human resource management stakeholders.
- (c) It also consists of the automation of transactions through the use of intranets and extranets.
- (d) This technological aspect deal with facilities like HR portals, employer and employee self-service and operates with various application programmes.
- (e) Relational HRM focus on supportive HR tools that support business process such as

recruitment selection and performance management.

3. Transformational Human Resource Management:

- (a) The ultimate function of human resource is the transformational human resource management.
- (b) In this function, the transactional directives of human resources are shifted towards the transformational one.
- (c) The operational tasks of human resources are redirected towards the strategic initiatives.
- (d) In 2001 Walker categorizes transformational human resource management into three types:
 - (i) Sharing business partnership
 - (ii) Creation of expertise centers and
 - (iii) Administration of service centers

An organization could be able to adopt E-HRM initiatives within itself basing upon the factors like organizational maturity, number of personal computers are accessible with the company and number of human resource professionals and experts available to bring in E-HRM technical modifications in the organization. The pattern of E-HRM modifications may vary from organization to organization. At the same time, some organizations can go for developmental approach basing upon the three E-Human Resource Management functions from operational to relational and to transformational function.

Proficiency of Electronic Human Resource Management (E-HRM):

Organizations show mere interest in funding over E-HRM applications. They show interest towards this direction when get any larger margins of profit or substantial capital investment. Investments in information and technology are viewed as a sign positive contribution to organizational success. Human resource interpreters had to face these realities and developed techniques such as adoption, learning styles and evaluation. Such as:

(a) Connecting technology to outcomes:

Present era has witnessed new dimensions of technology. Such a valuable contribution is the Benefits Dependency Network. It is developed by Peppad, Wart and Daniel in

year 2007. An important feature of Benefits Dependency Network creates associations between IT enablers and the possible changes.

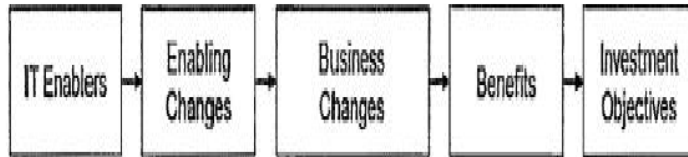


Figure1: Flow of Information and Technology changes

(b) E- Recruitment:

One of very popular human resource trend is recruiting employees on the online basis. HR managers can easily scan employees' CVs for the keywords identification and the requirement of knowledge, skills and competencies and experience. These details can be stored in the information system for immediate and future use. After introduction of electronic recruitment in human resources processes led to reduction in costs incurred in formal sources like job advertising, identification of job applicants, sorting and screening of prospective candidates. Trendy E-Recruitment is a two-way communication process which is web-enabled, time and space independent process.

E-Recruitment has become a full recruitment process in the company. It functions by posting probable vacancy positions of the through company website or intranet. Then online candidate application is made available. Then it is followed by establishing applicant database and online job boards, short-listing, testing and assessment of applicants and finally contracting the prospective candidates in the company. In this manner, E-Recruitment proved to be beneficial by saving time and expenses and thus creating qualitative pool of candidates.

(c) Virtual and Traditional Performance Appraisal Systems:

As companies started to use E- Human Resource Management, performance appraisal process has become automated and computerized allowing performance appraisal process to be conducted online through company's intranet. Virtual performance appraisal system encourages standardized process and procedure where the specific criteria and measurements of assigned positions and roles are available. In this procedure, all information is submitted directly to the Human Resource Department

in virtual form. It is also easy on the part of employees to fill up the self-explanatory form within few minutes. Employees can fill up the spaces provide in the performance appraisal form enquiring regarding their personal experiences and details. Hence, task for HR department has become easy in comprehending employees' performance appraisal as per the scheduled standards determined by the company.

(d) Maintaining employee's attendance and administration of compensation management:

In the present scenario, companies are opting for transformation of HR activities involving pay and benefits service to online format to improve ability. They collect information basing upon salary, wages and other benefits which is saved as input in company's systems. Later, it can be brought in the process of processing and segregating information and making out available information pertaining employee's at the time of necessity. Also, Electronic Human Resource Management is used for drafting and communicating salary policies. It can also be used in announcing additional compensation rewards to those individual employees who show outstanding performance.

(e) Human Resource Envision:

Human Resources envision a process in which exact numbers of qualified employees are being assigned to the right task and at the appropriate time. These technological modifications are therefore; believe to enhance ability of HR practitioners. Consequently, they can lead the work-force towards achieving productive ends.

(f) Internal and External Transmission of Information:

In organizations, information can be sent to one source to another with the help of channels like internet and intranet. Through internal communication individuals can send or receive information at all levels of the organization. Relevant data and figures can be made available to various departments via internet. Even, similar category of organizations can carry or forward accessible data by utilizing chain of networks. It emancipates the standard of organization in the labor market.

(g) Self-Service Enabling Web Portal:

After installing self-service enabling technology in organization, HR needs of employees can be fulfilled with ease. Such technology allows employees to serve themselves from anywhere at any time according to their convenience. A number of human resource tasks can be handled by employees and managers themselves. Additional self- service applications include functions like letting employees to enter their personal information on time, employees' viability of reviewing their pension balance, transferring funds, choosing their benefits, setting annual performance plan and updating personnel data.

Usually web-portal functions as a two-way communication channel which fosters harmonious relationships between individual and the organization. Several HR domains can gain from these online solutions including E-Health tools.

(h) Redefining major domains of Knowledge:

In uplifting standard of organization, obsolete approaches of administration need to be eliminated. It has to adopt trendy strategies like competence and innovativeness. This can be achieved by opting for particular and refined knowledge. The management of knowledge is considered as a modern outlook in solving problems of competitiveness and innovation. Knowledge management (KM) systems created in organizations seems to be viable with the usage of one of key mechanism of KM i.e.; internet. This Knowledge Management system extends towards competitive advantage in the market by gaining stakeholder satisfaction.

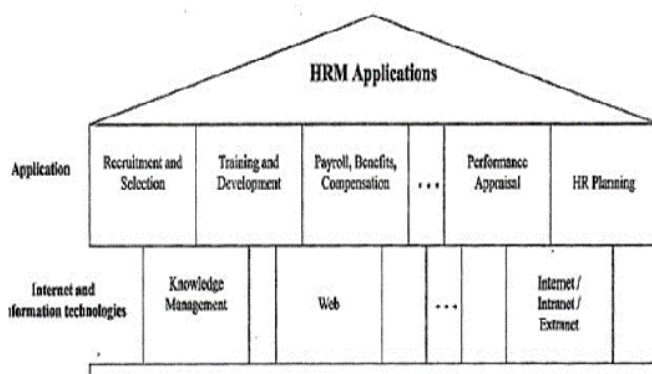


Figure 2: HRM Application process

Actually, Knowledge Management Systems are coordinated well with Web-based systems allowing mutual sharing of data among various departments of the organization.

VII. Application of Electronic Human Resource Management (E-HRM) with reference to Manufacturing and Service sectors:

Application of Electronic Human Resource Management can be viewed from different manufacturing and service sectors of the nation. It can be illustrated with various companies or firms such as Automobile, Household Appliances, and Construction. Pharmaceuticals, Electronics, Food and Beverages, Software Development, Banking, Telecommunication, Health services, Transport, Education and Training sector. In actual practice, few firms are found to deploy complete and integrated E-HRM system in the line management functions. Whereas, many firms are engaging minimum HRM modules at work. But most of human resources functions are being administered by manual system only.

Fragment of companies scoping for futuristic opportunities like software development, education and training are opting for virtual HRM functions. Such online technology automated a major portion of internal human resource transactions among these organizations. Most popular human resource online applications popular in this zone include intranets, HR portals and human resource functional applications. In a view to reduce organizational costs, the management is adopting E-HRM tools at various junctures of HRM applications. In addition, most of such companies are retaining the responsibility of managing their E-HRM applications. While other companies are adhering for sharing their virtual HR strategies with external vendors.

VIII. Role of HR managers and their usage of E-HRM:

As the usage of E-HRM is more it would lead to better efficiency. Hence, it would be pertinent in

- Exploring contribution of HR managers and their usage of E-HRM tools;
- Evaluation of the role played E-HRM tools in developing professional status;

- (c) Verifying how far E-HRM tools are fulfilling the needs of HR professionals to deal with the emerging roles.

IX. Endorsement of E-HRM techniques in Manufacturing and Service sectors:

Any firm would endorse any sort of tools and techniques if they are proved to be extremely beneficial for them. Electronic Human Resource (E-HR) tools are going to make advantage of not only the Human Resource department but also for the stakeholders. On-line HR applications are enhancing HR operational processes and letting the capacity of management and its employees.

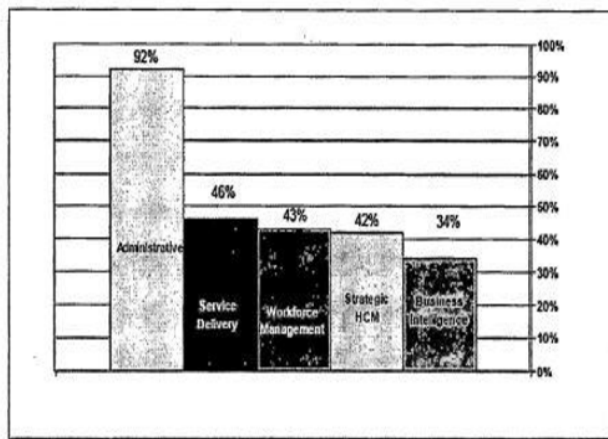


Figure.3: Depiction of E-HRM technology in various firms

The E-HRM tools and applications have modernized the industries. During course of time, virtual hawkers have created a broad range of automating computer programs for Human Resource Management staff. These innovations are proved to be beneficial for making Human Resource department's work easier and compatible. Such technologies are able to structure human resource actions a particular standard without and cross-application interfaces. The information depicts the fact that E-HRM applications utilization is giving a peak to sectors such as High-Tech Manufacturing for about 95% and Health Care for about 94%.

Modern usage of virtual technology in organizations includes older technologies like Payroll and HR management system. Most common use of E- HRM include domains like maintaining personal records of

employees, routine tax reports turnover analysis, insurance policies and structuring compensation analysis. Compensation simulation is most commonly used module in companies.

X. Findings of the study:

It is deduced that majority of HR professionals are in verge of converting their human resource departments into virtual one. Exponents like Eliot and Starkings in the year 1998 and Renkema in the year 2000 made a significant remark in this aspect. They concluded that most of manufacturing and service sector firms are anticipating brighter results from the E-HRM tools. It also reveals the fact that proficient E-HR modules are prevalent in all the categories of manufacturing and service sector firms. But they are mostly dominant in operational functions of the firms. Moreover E- HR tools assisted in dealing with daily tasks. They also help HR specialists in sorting out strategic decisions of the firm, thereby enhancing its competence in the market.

XI. Conclusion

Electronic Human Resource (E-HR) is a recent trend in the wave of Human Resource Management (HRM). It has made the operations of HR department much easier in comparison to the functioning of traditional HR operations. Many firms desire to convert their systems into virtual basis. It makes the HR operations to be automated and accessible to the management and its employees. Such a transformation in the HR administration is structuring organizational administration more standardized and compatible. Consequently, it is affecting the organizational future much upgraded level in the market.

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